AMERICAN
GAS JOURNAL

Citation
The Gas Distribution Engineers of America

APR 1944

Cited for Distinguished Service

True, no medals have been pinned on civilians for meritorious war-time activities. But, if citations were to be bestowed for service above and beyond the call of duty, then Gas Distribution Men should have first call upon the honor.

On the occasion of the 1944 Distribution Conference we feel that public acknowledgment is due these conscientious utility servants. During a period fraught with every conceivable obstacle, they have compiled an enviable record in providing continuous, adequate gas service to the homes and war production plants of America.

They have given willingly of their time and efforts, while ingeniously converting, adapting and repairing equipment, that the flow of this vital fuel could go ever forward.

Gas Distribution Men—we salute you!

WE CORDIALLY INVITE ALL DISTRIBUTION MEN TO MEET WITH THEIR FRIENDS DURING THE DISTRIBUTION CONFERENCE AT OUR HEADQUARTERS HOTEL STATLER CLEVELAND, OHIO

PITTSBURGH EQUITABLE METER COMPANY
ATLANTA BOSTON BROOKLYN BUFFALO CHICAGO COLUMBIA HOUSTON

MERCO NORDSTROM VALVE COMPANY
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NATIONAL METER DIVISION, Brooklyn, N. Y.
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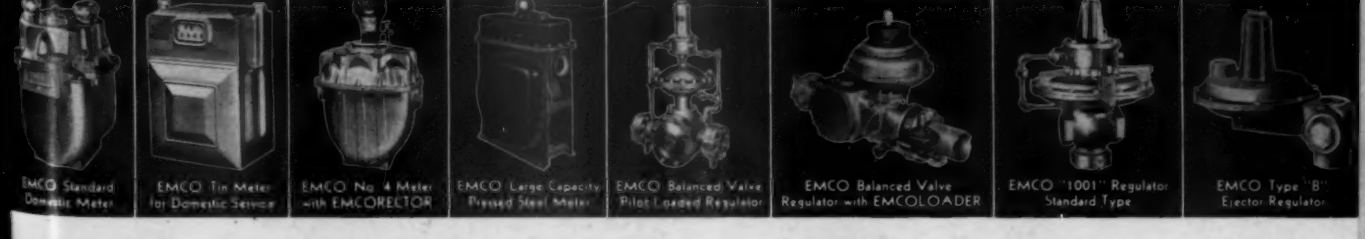

EMCO Standard Domestic Meter | EMCO Tin Meter for Domestic Service | EMCO No. 4 Meter with EMCORECTOR | EMCO Large Capacity Pressed Steel Meter | EMCO Balanced Valve Pilot Loaded Regulator | EMCO Balanced Valve Regulator with EMCOLOADER | EMCO "1001" Regulator Standard Type | EMCO Type "B" Ejector Regulator

APR 15 1944

This Plan WILL MAKE MONEY FOR YOU Today and Tomorrow!

This is the easy-to-use CP Business Building Plan that increases your floor traffic NOW and sells your customers on higher quality Gas Ranges for postwar delivery. Built on the patriotic theme of creating jobs for service men, this Plan ties you into winning the war and *winning the peace,* increases sales of War Bonds, helps create good jobs and provides you with a backlog of profitable orders.

Gas Ranges bearing the famous CP Seal meet the highest performance standards of engineers and home economists of the entire Gas industry. That is why the CP Seal is the American woman's buying guide—the symbol by which all cooking appliances are judged—the nationally advertised emblem your customers will look for on your sales floor.

GAS RANGES BEARING THE CP SEAL ARE MANUFACTURED BY

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A QUIZ PROGRAM FOR GAS PRODUCTION MEN

What do you know ABOUT CARBURETED WATER GAS MACHINES?

Q. *Can a carbureted water gas machine be operated successfully and efficiently on 100% bituminous coal and 100% heavy oil?*

A. Yes, indeed, if it is a Semet-Solvay REVERSE FLOW Water Gas Machine.

Q. *Does operation on 100% bituminous and 100% heavy oil cause the machine to smoke?*

A. No, indeed, not the Semet-Solvay REVERSE FLOW Water Gas Machine.

Q. *Can a carbureted water gas machine be changed at will, and without alterations in the machine, from coke or anthracite to bituminous coal, and from one grade of oil to another grade?*

A. Yes, indeed, if it is a Semet-Solvay REVERSE FLOW Water Gas Machine. You can take advantage of every change in market prices.

Q. *Is the REVERSE FLOW process new and untried?*

A. No, indeed. The first Semet-Solvay REVERSE FLOW Water Gas Machine was installed in 1937. Today there are ten plants in successful operation and three more under construction. Names gladly furnished on request.

Q. *Can existing water gas machines be modernized to obtain REVERSE FLOW advantages?*

A. Yes, indeed. Semet-Solvay can apply the REVERSE FLOW principle to all three-shell water gas machines.

Q. *Are all Semet-Solvay Water Gas Machines REVERSE FLOW?*

A. No, indeed. Semet-Solvay can furnish all types of water gas machines.

Q. *Are all REVERSE FLOW Water Gas Machines Semet-Solvay Machines?*

A. Yes, indeed. REVERSE FLOW is an exclusive Semet-Solvay development.

Q. *Is it difficult to make sure just what economies and other advantages you can expect from the REVERSE FLOW process in YOUR plant?*

A. No, indeed. Semet-Solvay will be glad to make a survey and complete report without cost or obligation to you. Why not write them today?

SEMET-SOLVAY ENGINEERING CORPORATION

40 Rector Street — **New York, N. Y.**

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"Fashions in Rations"
CBS
NEWS FLASH! PROGRAM
CLIMBS TO NEW HIGH RATING
The latest listener survey made by an unbiased research organization shows that "Fashions in Rations" has jumped in twelve months from a listener rating of 4.7 to 7.8. Now, this Saturday morning program has one of the highest national listener ratings among daytime food service programs.
7.8%

goes into second year on the air!

56 new stations give radio's liveliest food program a total network of 134 stations

ONE YEAR AGO, "Fashions in Rations" first went on the air, sponsored by Servel and co-operating Gas Companies. Food rationing was just beginning . . . and this program was keyed to this Number 1 interest of housewives everywhere.

And today, as "Fashions in Rations" enters its second year, housewives are more interested than ever in facts about food. This is shown in "Fashions in Rations'" own listener ratings, which have continued to rise to new highs. Now, more than 4,000,000 people tune in to "Fashions in Rations" every week!

Further proof of the American homemaker's interest in food and rationing is contained in latest magazine and newspaper readership studies. Food advertisements devoted to rationing problems are the *best read* advertisements in women's magazines. In local papers, food rationing items receive better-than-average reading.

Remember, "Fashions in Rations" is *your* program. And to make the most of the opportunity it offers you to build good will, be sure your customers know that "Fashions in Rations" *is* your program—through local newspaper advertisements, billboards, and displays.

5 STAR PROGRAM

- ★ Billie Burke
- ★ Alice White Food Forum
- ★ Official Food News from U. S. Dept. of Agriculture
- ★ Guest Food Authorities
- ★ Local Gas Company Cut-in

Servel, Inc.

EVANSVILLE 20, INDIANA

An INSIDE View of the DRESSER BELLMASTER

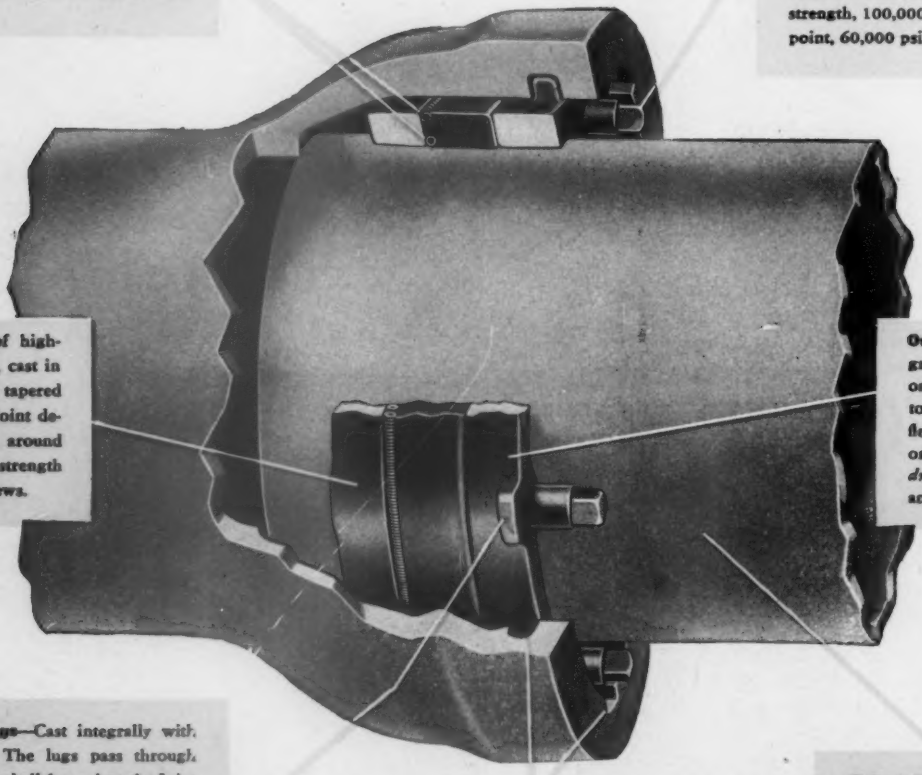
The Tight CIP Joint that Fits Inside the Bell

Gaskets—Plain or Armored type gaskets are available, depending on line contents. When ordering, specify service. Gaskets are ¾" x 1⅛" in cross-section and are of scientifically prepared, resilient rubber compound.

CUTAWAY VIEW

Style 85—Dresser Bellmaster Joint

Capscrews—Cold-upset from special steel and heat-treated for maximum strength. Double-headed: square section for wrenching, and large round section for extra protection against corrosion. Minimum ultimate tensile strength, 100,000 psi. Minimum yield point, 60,000 psi.



Inner Ring—Made of high-grade malleable iron, cast in one piece. Outside is tapered to permit maximum joint deflection. Extra metal around *tapped* screw holes for strength and protection of screws.

Outer Ring—Made of high-grade malleable iron, cast in one piece. Tapered on outside to permit maximum joint deflection without metal bending or stressing. Extra metal around *drilled* screw holes for strength and protection of screws.

Locking Lugs—Cast integrally with outer ring. The lugs pass through "slots" in the bell face when the Joint is inserted. The Joint is then turned clockwise until one lug hits the stop in bell groove, preventing rotation of Joint while capscrews are tightened.

Bell End of Pipe—Inner circumference is grooved to accommodate locking lugs. Slots on face of bell permit lug passage. When ordering, simply specify "Bellmaster Pipe."

Spigot End of Pipe—Absolutely plain. No bead, lip, or other special shape required.

Shipped, Stored, Installed All In One Piece

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ONE OF THE DRESSER INDUSTRIES

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When war was round the corner...

these meters were being built for you. Fine craftsmanship, laboratory-tested materials, and over a century of meter-manufacturing experience went into them.

War production now engages these and many new precision skills. But the accuracy and *staying-power* built into pre-war Metric-American Ironcase and American Tinned Steelcase meters should hold good for the duration. A test of advanced engineering design and perfected workmanship . . . which always are a sound investment!

●

Knowing your meters enables you to best take care of them and to be prepared for meeting post-war needs quickly and efficiently.

2031

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APRIL 1944

AMERICAN GAS JOURNAL

VOLUME 160 NO. 4

That CP Gas Range Express Will Soon Be Coming 'Round The Mountain

By

E. Carl Sorby

Vice President
Geo. D. Roper Corporation,
Rockford, Illinois

E. Carl Sorby

IN THE SECTION of the United States in which I was raised, the kids had a song that was a great favorite at the time. I am sure you remember it. "She'll be coming 'round the mountain. She'll be coming 'round the mountain when she comes."

Now it so happens that although there were no mountains in the vicinity, there was a high hill about a half mile from our home. One of the highlights of the day, *every day,* was to wait for old 723 to roar around that curve at the foot of the hill and come rocketing toward us. I can still see her with sparks flying and cars swaying, first hoving into sight, then flashing by in a hail of cinders and soon fading away in the distance.

The expectancy built up over a period of several hours was too great. The length of time during which we could actually watch the train was far too short. Invariably we were left with an empty feeling after old 723 was gone.

To me there is an analogy between our waiting for this train as kids and our waiting now for "post war." The expectancy is great. It will be a happy day for all of us when the war is over and the so-called post war period arrives. Although "post war" will be with us theoretically for years to come, we must guard against any possibility of being "let down." We must do this by laying our plans promptly and thoroughly in order to take advantage of the many opportunities that will come the day hostilities cease.

To all of us in the gas appliance business, the CP gas range will offer opportunities never before conceived. It will act as the gleaming spear head of post war selling, the product, par excellence, which will draw customers to our store in droves.

Before we go further with a discussion of the many opportunities offered by the CP gas range, let's spend a few moments in looking at the general economic situation which we will face, according to recognized authorities, in the post war era.

A large percent of the people one talks to have in the back of their minds the feeling that every major war must be followed sooner or later by a serious and lengthy depression. History does not bear out the authenticity of this belief.

When we examine the period after the War of 1812, we see that there were but two months of hesitancy followed by one year of replacement boom and eighteen months of expansion. Then two years of retardment did set in, after which a period of approximately four years of recovery and prosperity took place. *Only two of the ten years after the war might be called unfavorable years.*

The period after the Civil War presents a somewhat similar but slightly different picture. Immediately after the war came five months of hesitancy. Then a year and a half of replacement boom. In 1867 and 1868 appeared a somewhat serious trade recession accompanied by financial difficulties. However, the expansion of the nation's industries and railroads did considerable towards softening the effects of the recession. From 1869 through most of 1873, the U. S. enjoyed a period of general prosperity.

At the end of World War I, serious difficulties were predicted. Several months of hesitancy were followed by a year of replacement boom and then a financial and trade collapse which lasted about 18 months. *But from late 1921 until late 1929 the nation experienced a period of recovery and prosperity which has no parallel in history.*

It was quickly seen during the period of hesitancy, that industry was inclined to hold back major purchases because of the fear of a price collapse. Just as soon as business leaders got together and agreed to move ahead regardless, the period of replacement boom came into being.

Definite reasons for the financial and trade collapse in 1920 and 1921 are known. One reason was the fact that things boomed too rapidly during the period of replacement, thereby causing maladjustments. Speculations in inventories proved particularly disastrous. Another reason for the difficulty in '20 and '21 was the fact that our banking system was considerably battered and bent. The credit resources of the banks ran alarmingly low. The third factor was the rapid rise in the cost of living which reduced purchasing power and, therefore, reduced the potential market for available products. Although the 1920-21 period was acute, it was short.

The Post-War Situation

Now let us examine the situation that will confront us at the close of World War II. In order to look at both sides of the question, let's consider the unfavorable factors first.

1. Unemployment will be a major problem. Whereas in World War I approximately 4% of our total population were in the armed forces, in World War II from 8 to 10% have followed the nation's colors. Furthermore, our conversion from peacetime production to war production has been far more intensive in World War II with many more workers employed in war plants. Another point is that many more jobs will be needed in order to maintain business at a high level as compared to pre-war job requirements. This will be developed a little further on.

2. The reconverting of industry will be much more serious than in the last war. This is true both because of the number of industries converted to war production and because of the increased length of World War II.

3. Likely shortages of working capital. At the close of World War I the average company was in a better position in relation to available working capital than the average company will be at the close of this war.

4. Corporate taxes are much higher in World War II. We can expect little relief from a high tax burden in the immediate post-war years.

5. Manufacturers in the World War II post-war era will enjoy a far more unfavorable cost-price ratio. High cost of raw materials and high wage scales have brought this condition about.- It is believed, however, that just as soon as war-born technological advances can be harnessed to a peacetime economy, they will tend to offset this unfavorable cost-price ratio.

The Favorable Factors

Now let's look at the favorable factors which will greet us the minute the war has ended.

1. Demobilization of our armed forces will be carried out on a retarded basis. The fact that the war on all fronts will not end at the same time, coupled with the need for policing many countries until reputable governments can be established, will make it necessary that large numbers of the armed forces remain in the service for several years after the war. This will give industry an opportunity to assimilate returning war veterans on a much more feasible basis than if they all were demobilized immediately come peace.

2. World wide reconstruction requirements will place a heavy demand upon many American products including raw materials, machine tools and others. This will considerably stimulate our domestic economy.

3. Serious domestic shortages of consumer goods are appearing in all parts of the nation. The longer the war lasts the more pronounced these shortages will become and the more demand for consumer goods there will be when they are once again made available.

4. Because of a lack of man power as well as materials, industrial equipment in many cases has been stretched to near the breaking point. There will be a tremendous post war demand for replacement parts, new machines, new tools, and many other products. Satisfying that need will further stimulate activity.

5. Due to the fact that comparatively few homes have been built during the war period, housing deficiencies are becoming more and more acute. Building industries estimate that on the average, a million to a million and a half homes will be built each year for ten years after the war.

6. The purchasing power of the average American will be much higher. During the war period he has paid off obligations, put money into insurance, in the savings banks and into U. S. War Bonds. More on this appears below.

7. During World War II inflation has been controlled to a much greater degree than during World War I. While wholesale prices rose approximately 80% in World War I they have risen only 30% at a parallel date in World War II. This places the nation in a much more favorable position.

Important Considerations

Most government and business leaders are agreed that production, promotion, advertising, merchandising, sales—all will become vitally important on that postwar day when we must pick up the ball and run with it. It will not be enough for us to consider going back to 1940 production levels and carrying on from there.

True, in 1940 the nation turned out more goods than in any previous year. And yet, in 1940 only 46 million people were employed and 9 million were unemployed. That is, 9 million people who were able and willing to work were unable to secure jobs in 1940. By 1942, unemployment had dropped to a million and a half, showing the stimulus of the war effort.

Worker efficiency has greatly increased in the last decade. Fewer people working shorter hours produced considerably more goods in 1940 than in 1929. During this period the nation's output per man hour increased approximately 34%. It has increased further since 1940. At the same time our national labor force has been increasing approximately 700,000 a year.

Employment Needs

Assuming that 1946 might be the first full peace time year, we will need jobs for 58 million people. This figure is predicted on the return to the home of those women and elderly persons who were not actively engaged in industry before the war.

In order to provide jobs for those 58 million, by keeping our national product at approximately 50% above the 1940 level, smart, attractive merchandise and aggressive sales policies will be necessary.

We will require a national product, that is, the total of all goods and services sold, of $142 billion in terms of 1940 prices or $165 billion in 1942 prices. This figure should be compared with the $97 billion in 1940 which was the best pre-war year.

As previously stated, many favorable factors will be with us at the close of the war. Important is the fact that few industries have actually over expanded. For example, in 1914 steel ingot capacity was 44.5 million tons. In 1919, due to the war impetus, it had increased to 61 million tons. By 1922 ingot capacity under the influence of peacetime pro-

duction had stepped up to the then record of 65.4 million tons. The same stimulus will be at work this time.

Consumer Demand

There is a tremendous pent up desire on the part of the public at large for both products and services. The demand for cooking and heating appliances is particularly favorable. Sales have increased from $364.7 million in 1929 to $433.7 million in 1940 and $650 million in 1941. By projecting these figures further and figuring at the 1942 price level, 1946 would show a potential of $814 million which represents an increase of 88% over 1940. Understand, this assumption is based upon general trends in relation to the total national output. It does not take into consideration positive and negative influences within our particular industry.

In spite of higher taxes, people do have the money with which to satisfy their desires just as soon as the products and the services are made available. For example, in spite of higher taxes, our spendable 1943 income was $118 billion as against $73.2 billion in 1940. If the war lasts through 1944, it is conservatively estimated that the total savings over a three year period might well approach $100 billion. This is approximately double the average savings expectancy.

We give you all of this information as background and as working facts. It shows the general economic situation as it should be in post war, as near as the experts are able to put their finger on it. It points out the tremendous pent up desire for products of all kinds. It proves without doubt that people have the savings with which to purchase that which they desire. Beyond that the problem becomes ours.

The CP Outlook

In the CP gas range we have the magic scepter with which to take advantage of all the favorable factors which will appear in our national scene after the war.

You are familiar with the fact that the acceptance of the CP gas range increased by leaps and bounds after its appearance in 1938 until production was discontinued at the start of the war.

You have heard that the average nation-wide pre-war selling price of the CP gas range was $125. You know that the CP program exerted tremendous influence toward increasing the average unit selling price of all ranges to $70. Your own experience has proven that since the start of the CP program, the sale of heat control ranges has increased 141%.

Your CP gas range committee has maintained an aggressive flow of activity throughout the war period. Many of the ads appearing over the American Gas Association signature have emphasized the CP seal of Certified Performance. Trade paper ads have appeared regularly in order to maintain the enthusiasm of the companies and of the individual salesman who in peace time did such a splendid job of placing this outstanding unit in homes throughout the nation.

With the approach of the termination of the war your CP committee has felt that CP gas range activity should be further stimulated.

A program recently announced has as its objectives:

1. **The sale of War Bonds now.**
2. **Providing jobs for returning men in service.**
3. **The Sale of CP gas ranges after the war.**

A plan has been worked out whereby prospective CP gas range customers will be urged to purchase and earmark $100 to $150 extra in War Bonds especially for the purchase of a CP gas range when once again production is resumed. The plan is flexible so that the individual dealer or utility company can tailor it to his own particular needs and desires.

The Advertising Program

War bond folders, envelope inserts, large window posters, radio spot announcements and many other materials have been made available by the Association of Gas Appliance and Equipment Manufacturers, 60 East 42nd Street, New York 17, New York. These materials may be secured upon request.

An energetic advertising program is being carried out in Architectural Forum in order to reach architects, builders, building material dealers and others who will have considerable influence upon the person who will be building in the post war period.

Attractive and hard-hitting trade paper advertisements developing the current CP theme will appear regularly in leading magazines reaching utility companies, hardware stores, furniture stores, department stores, dealers, in fact all those interested in appliance merchandising.

Several manufacturers are moving ahead with national advertising featuring the CP seal, designed to maintain the basic interest which has been built up in the mind of the housewife.

CP Design and Sales

The CP gas range of the future, as in the past, will be the smartest in design, the most complete in features that has ever been offered to the American public. It truly will be the cooking marvel of the age, the ideal unit to interpret gas, the fuel, into an outstanding cooking service.

The CP gas range will stimulate activity on the part of the entire gas industry. It will help sales management to plan more soundly and more boldly. It will act as the ideal unit for home service to use in visually demonstrating the superiority of gas. It will prove itself the service man's friend.

The Certified Performance gas range will increase the average sale price of all gas ranges sold. It will assure a wider margin of profit for dealer and utility alike.

It will protect the cooking load and effectively counteract the efforts of competitors featuring units requiring other fuels. It will stimulate utility dealer cooperation to the advantage of utility dealer, manufacturer and consumer.

Furthermore, the CP gas range of the future will be far more than the answer of an industry to its own needs. It will be the means of providing more sales jobs for returning men in service. It will be the means of providing more production jobs for many war workers who have contributed so much in fashioning the implements of war.

It will be the means of providing a rock bottom foundation upon which wartime savings may be placed for the good of the family and the nation. It will offer a means of im-

(Concluded on page 50)

Address of the Retiring President of The New England Gas Association

IT IS GOOD that our Association has made it a custom to hold an annual business conference, and I am grateful that the meeting honors its retiring president by giving him an opportunity to address the membership. This gives me a few moments to review the activities of the past year and to present my appraisal of the job that lies ahead for the New England gas industry.

This meeting will stick to business, as we are convinced that only such activities as contribute their utmost to winning the war and planning for the gas industry's peacetime progress should receive our attention.

In retrospect, your Association has completed a year of action—unusual as compared with normal times—but in step with war production and the maintenance of gas service so essential in a wartime period to the health and well being of our civilian life.

You have just heard our executive secretary's customary and thorough report and I shall not take time to further review the years' activities in detail. I would however be remiss in not recognizing the high spots of the past year in Association affairs. Our Division meetings have been curtailed in number but not in interest, attendance or in the importance of subjects and speakers presented. The group discussion conferences were again employed, attuned to these wartimes and they were of practical value to our membership. We are all indebted to the directors, division chairmen and committee personnel for their wholehearted cooperation.

Cooperation in War Effort

The gas companies of New England have cooperated fully with the war effort on their own home fronts. The extent of this war cooperation, developed from a survey recently completed, is better shown by the following:

We have known that our New England gas companies were cooperating actively with the various phases of the war effort in their respective territories. Nevertheless, it appeared that a survey, to determine the extent and nature of this cooperation, was timely in that it would provide an interesting picture as a permanent record of active participation in the war effort. It was also felt that a survey would suggest additional types of war cooperation which some of the companies can render.

Norman B. Bertolette
President
The Hartford Gas Company

Results of Survey

The results of the survey are impressive and indicate a much greater activity in the war effort than one might imagine. Replies came from 46 operating companies covering 89% of the gas meters in New England.

I shall give you a few of the high-spots developed by the survey and mimeographed copies of the summary will be mailed to each gas company manager today.

1. Gas send-out for 1943 increased an average of 36.5% over 1938 and 17% over two years ago.

2. The greatest percentage increase was in the industrial class which shows an average increase of 145% over 1938 and 25.5% over two years ago.

3. Fifteen companies are supplying gas to war housing projects, principally for cooking and water heating and in some instances for refrigeration. There are 33 of these housing projects, totaling 12,916 dwelling units.

4. Fourteen of our companies report a variety of installations to army camps, hospitals, forts, naval bases and other armed service units, particularly supplying gas service for cooking and water heating.

5. Many of our employees are serving in the armed forces. The 46 reporting companies show an average of 30 employees each in the service, which is an average of 13% of the employees of these companies.

6. The gas companies of New England have participated to a great extent in the government's fuel conservation program, with the larger companies engaged the most fully in this activity. The principal types of cooperation and in the order of frequency in which they were used are; newspaper advertising, bill enclosures, radio, customer letters, show-room displays and billboard advertising.

7. The employees of our companies participate extensively in civilian defense, Red Cross, war ration boards, war bond campaigns, and many other war activities on the home front. The most widely reported are among the employees of 45 companies working in civilian defense and those of 35 companies in Red Cross activities. However, most replies indicate that "all of the employees are participating in community war activities."

8. The extent of Home Service cooperation with the national nutrition program is varied and most extensive throughout the 46 reporting companies, particularly home volunteer and consumer information centers, lectures and demonstrations, canning activities and radio programs. The various companies have made their stores, auditoriums and display windows widely and sometimes entirely available for all phases of community war activities.

9. Our employees have participated actively in the blood donor campaign. Sixteen of the reporting companies have Blood Donor Committees and an average of 30% of all employees of these 46 companies have contributed.

10. It is interesting to note that 42 of the companies have an employee's bond purchase plan, 9 of which have 100% participation while the average employee participation in bond purchases is 78%.

A final question as to other types of war cooperation in which a company or its employees had participated brought a listing of 23 activities of which "reduction of gasoline and tire consumption" was common to all of the companies. The other activities are quite varied in scope.

In concluding my remarks on this survey, may I repeat that I was amazed at the extent and variety of our cooperation with the war effort. I hope that upon their return home, our company managers will read this survey in full. It may well give them many usable ideas for the coming critical months. And to all of you—I urge that your efforts be continued unrelaxed, in these many war cooperation activities.

The three special activities—the studies of the Economic Survey Committee, the Appliance Survey Committee, and the Kitchen Heating Committee—have helped the gas industry in general and our New England gas companies in particular. I thank Chairman James A. Cook, Roy E. Wright and Joseph J. Quinn and their committee members for the vast amount of time and thought devoted in our behalf.

I have found the job of President of our Association a pleasant and enlightening experience and far from being an onerous task. I am appreciative of the interest and cooperation given to me by the officers, past presidents and directors. My thanks are also extended to Clark Belden and his capable staff for the efficient operation at headquarters and for their assistance to all branches of our Association's activities. My past year's experience further confirms my belief that N.E.G.A. is the outstanding regional Association of our nationwide gas industry and that many of its accomplishments are unparalleled.

Viewing the Future

Once a year is not too often to look back along the trail that we have traveled. It is, of course, wise to look ahead also. Some may term this "Post-War Planning" or others may call it "a study of Futures."

We should feel honored by the fact that some of our associates in N.E.G.A. were chosen and are actively working on the A.G.A. Post-War Planning Committee. Our fellow members R. J. Rutherford and Hall M. Henry—past president and president-elect of our Association—head two of the four principal subcommittees. Reports are now coming to all of our gas utilities from these committees covering their conclusions and recommendations. I earnestly bespeak not only your interest but careful consideration on the part of your companies in immediately following these recommendations. What our gas industry must have is maximum "group effort"—the determined aggressive action of not just a few alert gas utilities but of the gas industry as a whole.

Sales Promotion

The important, and may I say vital, sales promotion division of our companies will be the principal and first benefactor from the work of the A.G.A. Post-War Planning Committee. The action that is taken by our sales departments, fully backed and supported by an understanding and courageous management, will alone produce successful sales results.

We all know that after the war we will be faced with the stiffest competition from all sources for the customer's dollars and his war bonds—the greatest competition in our history. We must have better modern appliances than those of our competition and our merchandise must be more acceptable for the service it can perform than that of other types of service equipment, other goods for better living, or luxuries which will also attract the customer's interest and dollars.

Plans should now be laid for advertising methods, their kind and amount, together with an appraisal of the expense that will be required. We should be planning for the training and development of a competent sales organization. Then, too, we should be devising plans which will attract dealer interest. The latter can be done only by methods and cooperation which will enable the dealer to merchandise gas appliances that are saleable and profitable.

Replacement Market

There will be many appliances on our lines after the war that will be ten or more years old. These constitute a real market for replacement with modern gas appliances—but they are also an attractive market for competition. This subject requires much planning. It is claimed by many that, from a realistic and practical viewpoint, we should not look for great advances or improvement in most lines of equipment or goods immediately after the war. It may well take a year or more to bring them out of research laboratories, to retool the plants and to get them into production. In the meantime, reconversion to peacetime consumer goods will make available sound and improved merchandise that will be readily saleable and justifiable in the public interest.

The A.G.A. Laboratories are making much progress in appliance research. For example, the new flash-tube, single-gas-pilot, range ignition and the improved electric ignition are real steps in the direction of improvement. Similarly, the Institute of Gas Technology is working actively on developments in gas production and utilization.

Another and very important element to aid the success of sales promotion is the home service division of your company. Its performance was good in the pre-war days but during the past two years it has made a major contribution to community life under wartime conditions. Its thousands of contacts and aid in conservation of food and appliances have paved the way for greater public acceptance of modern gas service in the post-war era because of the many kinds of help rendered.

Rate Structures

Let us not fail to give full consideration and study to our rate structures. Those gas utilities that have developed rate cost analyses will be better equipped to design the promotional rates so necessary to hold and build gas loads, particularly residential. These cost data are also necessary in order to support promotional rates submitted to regulatory bodies for their approval. Many of our gas utilities are today handicapped by having uneconomic minimum charges and too low a rate for the first five hundred cubic feet or so of monthly gas usage. This prevents the development of inducement or promotional rates for greater residential gas usage and retards the procurement of additional gas consumption, whether automatic water heating, refrigeration or, in some cases, even the range load.

I believe we have exploded the idea that the small gas user is one in the lower income bracket who would be adversely affected by any increase in the minimum charge or an increase in the rate for small gas usage. This may be true in the electric industry but our own studies indicate to the contrary. Such studies show that the low and low-to-medium income bracket classes need more of the services we can provide for cooking, automatic water heating, re-

frigeration and kitchen heating and at a lower cost. Conversely, it is the small family or apartment tenant whose gas usage is more intermittent and a somewhat higher cost has lesser effect upon their living conditions. I, therefore, earnestly suggest that your planning for the future include a re-study of your rate structures.

Operating Needs

The product costs of gas made and distributed are high in comparison with the end costs or the sales price. This requires constant attention being given to operating costs in order to effect greater efficiency in production and distribution methods and thereby reduce these costs wherever possible.

The war has necessitated many changes in our operations and among these we have greatly modified our customer servicing policies. This experience indicates the possibility of a different servicing time scheduling to be adopted post-war, perhaps more comprehensive than at present, but modified as contrasted with the pre-war days.

Appliance Types

Our gas utility business is an enterprise that requires close alignment with the gas appliance manufacturers and, without cooperation and mutual understanding on the part of both, we cannot be successful in our enterprise. The individual gas companies must consider putting aside their desires for special types of appliances or appurtenances thereto for the good of the industry. Then we may expect more in mass production, resulting from standardization, simplification and fewer models. We must, therefore, see to it that the manufacturers who accomplish this result of mass production, coupled with true modernity, have our full support.

Taxes

Let us assume that we are successful in our post-war planning, our sales promotion, our development of promotional rates and the control of operating costs. The next problem is the impact of Federal, State and local taxes. We might well say that taxes are today required in support of our government's war program. To that extent, I have no argument. However, we owe it to ourselves and our industry to become interested in all forms of governmental taxation having to do with the normal operation of local, state and federal authorities. We should take an active part in town meetings, in properly administered tax research organizations, become acquainted with our representatives, local, state and federal, and express our constructive thinking to them. I am strongly convinced that all of us must of necessity become more tax conscious. I further believe that our governmental representatives are more receptive to the thinking of their constituents than they were some years ago.

Depreciation

Now we approach the lower, right-hand corner of our earnings statement but, before we can view the end result, we must give consideration to the impending matter of depreciation. There exists today much controversy as to "depreciation" in the determination of a rate base and to the "annual rate of accrual for depreciation" to be charged to the operating accounts. The Committees of Executives on Depreciation, together with the Depreciation Committees, of the American Gas Association and the Edison Electric Institute, have devoted many meetings to this important subject, particularly during the past few months. They have developed sound arguments and opposition to the matter of depreciation accounting as presented in the report of the 1943 N A R U C Committee on Depreciation. This report contained conclusions and recommendations of vital importance to the gas utility industry. It presents a serious threat to the solvency, stability and efficiency of our gas utility business, and we should be grateful to these industry leaders who are working on this subject in behalf of all of our gas companies.

Many of our utilities are convinced that their depreciation reserves are in excess of the factual depreciation that has occurred. These companies have made preparation for hurricanes, floods, fires, as well as for obsolescence by providing for them in the reserve well in advance of such contingency or required action. In such cases, many companies append a footnote on their balance sheets which states specifically "That the reserve is a provision to meet future depreciation from causes which have not yet become effective as well as to cover such deterioration as has in fact taken place." It is, therefore, factually unfair and incorrect to have such depreciation reserve, in part a reserve for possible contingencies, deducted from plant in the determination of a rate base.

Another serious threat to privately owned utilities is the possibility of a retroactive application of depreciation accounting. In the report presented to the N A R U C convention last year by its Committee on Depreciation, there is contained a new defining of depreciation and a favoring of the straight-line approach. This report fails to answer the most pressing problem of how to accomplish the conversion from retirement reserve to depreciation accounting without injuring the credit of the utilities. In many cases, this new concept of depreciation would require substantially larger dollar reserves than those that have been accumulated under the retirement reserve system.

It may well be that Company "X" had created through the prior regulatory requirements a satisfactory retirement reserve of, say, 15% of its depreciable property. If a new regulatory requirement caused the overnight conversion from retirement to depreciation reserves, it might be found that a vast deficiency existed in the reserve, possibly upwards to an additional 10 to 15 per cent of the depreciable property. The N A R U C Depreciation Committee's report says "the necessary correction should be made through surplus or a special section of the income account." However, in Company "X", no such surplus or adequate income is available. In other words, an attempt to make a retroactive application of its depreciation accounting would require more than the surplus of Company "X" and by regulatory fiat such a company would thereby become insolvent.

I believe there is a realistic and fair approach to those utilities that are found to have, according to the new yardstick, too low a depreciation reserve. That would be to create a greater reserve, by allowing increased depreciation accruals properly chargeable to operating expense and with corresponding rate adjustments, and to do so over a reasonable period of years.

(Concluded on page 50)

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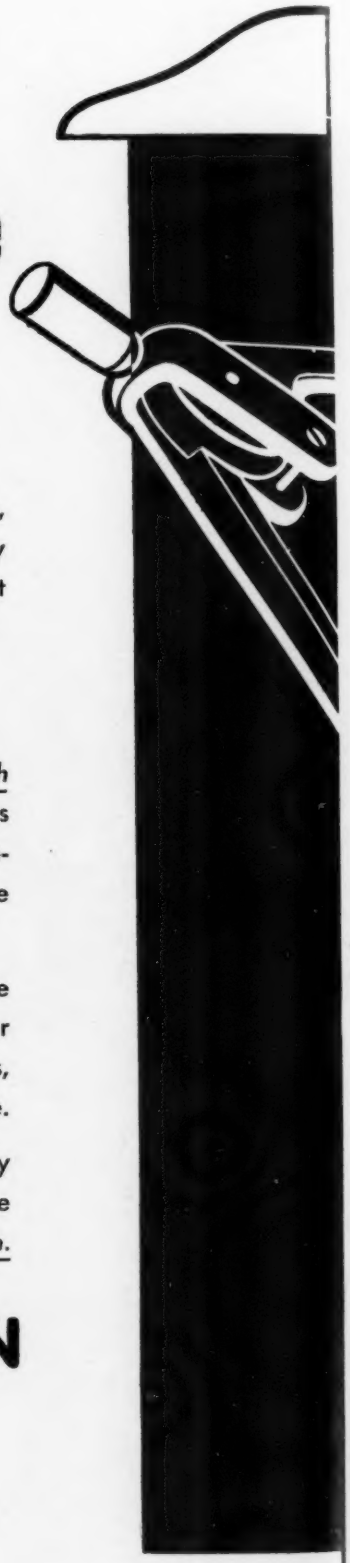
What will the gas range of

DISCUSSION NO. 2

Will back burners consider the length of a woman's reach?



The eternal struggle between the artistic designer for appearance, and the hard-headed engineer for utility, may well be a happy agreement in the burner arrangement of tomorrow's range. We expect something like this:

(a) Short spacing front to back, preferably 8½"
(b) Wide spacing side to side, preferably 10½"

Such an arrangement *permits* the housewife to place *heavy utensils on both front burners,* instead of having to put one on a diagonal back burner—lessens lifting of heavy utensils to the back burners, with the attendant danger of tipping and spilling. Short front to rear spacing means vessels that have to be placed on back burners *need not be lifted so far.*

From the standpoint of appearance, the wide side-to-side design is desirable because it makes a more substantial looking cooking top. Designers, ever striving to make a range look larger by manipulating the top features, will recognize that this arrangement helps to accomplish this purpose.

Yes, from the standpoint of appearance, convenience, and practicability —it seems reasonably certain that the top burner arrangement in the range of the future *will consider the length of a woman's reach.*

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New England Gas Association Business Conference

THE 18th Annual Business Conference of the New England Gas Association, was held at Hotel Statler, Boston, Mass., March 23, 1944. Attendance over 400.

First on the program was the election of officers, followed by the annual report presented by Clark Belden, Executive Secretary.

The first paper presented was on the subject of "Post-War Developments" by Col. Willard F. Rockwell, President, Association of Gas Appliances & Equipment Manufacturers and President, Pittsburgh Equitable Meter Co. He cited the effect of continued government control after the war, and the necessity for several post-war plans to cover various contingencies. "We who remain at home," Col. Rockwell said, "must work and fight to preserve this nation and its institutions, or our fighting men will return to find we have abandoned the faith, while they are fighting to uphold it. I believe the people are ready to return to constitutional government and that is going to bring a return to peace and prosperity in which all Americans will share just as fully as they deserve."

The President's address by N. B. Bertolette, President of the Association and President of the Hartford Gas Company, will be found elsewhere in this issue of the JOURNAL.

Ernest R. Acker, President of the American Gas Association, talked on the "National Developments in the Gas Industry," and paper by A. M. Beebee, Chairman, A. G. A. Post-War Planning Committee, discussed the subject of "Mobilization for Post-War Action."

Everett J. Boothby, Chairman A. G. A. Committee on Domestic Research, discussed the work of his committee and outlined the nature of the work done and in progress.

"The Importance of the Gas House Heating Load," was the subject of a paper presented by Henry O. Loebell, Chairman, A. G. A. Subcommittee on Economics of House Heating. He outlined the collateral and direct advantages of this load to the gas company.

The paper on "Industrial Gas Outlook," by Frederick O. Hess, outlined the vast possibilities of gas for industrial uses after the war.

C. George Segeler, Engineer of Utilization, A. G. A., presented a paper titled "We'll Always Need Gas," which is published in this issue of the JOURNAL.

One of the highlights of the meeting was the presentation of a gift by President Bertolette to Roy E. Wright for outstanding Association accomplishments, during the past two years.

"I have a special function to perform this morning," said Mr. Bertolette, "and I do so with considerable pleasure.

"Occasionally, some one man makes an outstanding contribution during some one Association year or during some two or three consecutive years. For instance, at our Annual Meeting two years ago, we presented a fountain pen and pencil set to J. L. Johnson of Providence who was then completing three years as chairman of the committee which produced the extremely helpful illustrated appliance servicing manual.

"Going back several years, there was one other man who made an exceptional contribution to the activities of our Association. That was Carl H. Cummings who was chairman of our Sales Development Committee for three years. This committee conducted a three-day conference for sales managers and supervisors, a series of three regional all-day sales training conferences for gas company salesmen and supervised the publication of a book entitled 'Sales Development Program.'

"This year, we feel that another man has earned a special mention by virtue of his outstanding work during the past two Association years. He has been the chairman of the Sales Division during a period when it has been impossible to conduct anything like a normal program but when he has nevertheless offered a leadership that has built the Sales Managers Conferences to a new high level of interest, quality and attendance. Those of you who have attended any of the six all-day conferences in the past two years know exactly what I mean.

Congratulations to the New England Gas Association on its 18th Annual Business Conference.

In surveying an essential industry's progress in the war, and its position in the post-war world, it has set itself to the task of meeting post-war problems with characteristic foresight and vigor, and once again has helped set the tempo for the gas industry in New England and throughout the country as a whole.

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"But this man's contribution has gone considerably further during the past year. He has been the chairman of the Appliance Study Committee which has held a series of all-day meetings, which has conducted customer preference surveys regarding appliances, which has had several working subcommittees and which has had the cooperation of specialists in the several fields from our New England gas companies and from companies in the New York area.

"The net result of all of these deliberations of this man and of the 17 members of his committee has been that a most comprehensive report in two parts has been approved by the Association directors—Part I on December 3 and Part II yesterday. This report has presented a large number of constructive ideas covering gas appliances and equipment in every field except the industrial where a special-order situation largely prevails.

"You have probably concluded that this man is a most active Association worker—which he is because he has also been a Division director and a member of various committees for many years. But there is still something else that I have not mentioned. He is the only man in the history of our Association who has been chairman of more than one Division. He has been chairman of both our Sales and Industrial Divisions.

"Will Roy E. Wright of Cambridge please come forward and receive the gift I would like to present to him?"

OFFICERS, NEW ENGLAND GAS ASSOCIATION

Top row, left to right, E. H. Eacker, treasurer; Clark Belden, Executive Secretary; L. E. Knowlton, 2nd Vice President.

Bottom row, left to right, Hall M. Henry, President; N. B. Bertolette, retiring President; D. S. Reynolds, 1st Vice President.

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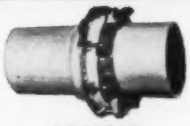

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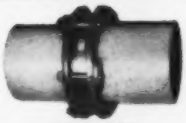

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Industrial and Commercial Gas Reconversion Problems

By

Karl Emmerling,

Asst. Gen. Supt.
The East Ohio Gas Company
Cleveland, Ohio

and

J. P. Leinroth,

Gen. Ind. Fuel Rep.
Public Service Electric & Gas Co.
Newark, N. J.

Mr. Emmerling's remarks are presented from the standpoint of natural gas; Mr. Leinroth's remarks are presented from the standpoint of manufactured gas.

Mr. Emmerling

MANY, if not most, of our industrial gas customers in this war period have radically changed the products they made and their manufacturing processes.

The maker of steel auto body strip is now rolling out ship plate in enormous amounts; the builder of jail cells heat treats armor plate; the maker of automobiles produces anti-aircraft guns; and the bridge builder now is constructing ships. These are only a few of myriad cases that, in the main, are similar. Plants have been redesigned and the equipment in them has been replaced with new, in order to do just one thing—to make materials and instruments of war.

You are all familiar with what a complicated and costly process this was, and with the mistakes that were made in the rush and excitement of the conversion.

One of these days the makers of materials and instruments of war must retrace their steps and set up to make again the things that they made before, or new things that they believe will be more easily made or sold. The boys will again be beating swords into plowshares.

As you all know, the thinking along these lines already has considerably more than commenced. Much of it has gone a long way past a start, and I suppose that every one of our industrial gas customers has made at least mental plans as to what he is going to do after the war. Some of them, we know, are even now setting up very elaborate plans toward this end, and in the near future, all of our industrial customers will, of necessity, commence making very concrete and definite plans as to what they propose to do when the war ends.

These plans fall naturally into three classes, as illustrated by what we find our users of industrial gas are planning to do. The three main divisions of planning are: 1. Continue manufacturing the articles that they are now making; 2. Return to their prewar business; or 3. Enter into an entirely new line of endeavor.

These courses of planning or thinking often overlap, even to the extent of including all three phases of postwar production, or the possibility of them, at least. The only thing that's certain these days is uncertainty.

But no matter what the plans are, or may become, the average industrial gas customer will have to rehabilitate old idle equipment, devise new ways of using equipment presently used in war production, or purchase new equipment.

Our problem in this whole picture is to see that the customer, if he needs fuel at all, uses gas, regardless of what changes may be necessary in equipment. We can at least begin to chart that problem, now.

During this war period, many of us may have lost track of the many changes that have taken place in the plants of our customers. This is only natural; it has become very difficult to get into plants, plant executives have been too busy to see us, the depleted manpower of our industrial departments has had all that it could do to take care of the immediate needs of its customers.

Load Adjustment

It is time that we bring ourselves up to date on what has happened in our industrial customers' plants, and, most important of all, on what they are thinking about for after the war, and make our plans accordingly. We must determine how we are going to retain the industrial load that we now have, regain our prewar load, and get new load if the conditions indicate that new load is to be had.

What must we do to accomplish this?

First and foremost, we must build up our industrial departments *now*. We cannot wait until men return from the the service, or until men who have been transferred to other departments can be conveniently released. Some way or other, we must get enough men for our industrial departments to do the preliminary work that must be done ahead of an active campaign to regain business lost during the war, hold what we gained during the war, and get our share of what new business will be available after the war.

After having obtained the necessary men, the next job is to train them sufficiently so that they will be capable of carrying on the work which will be demanded of our industrial departments. A course of retraining for the men who remained in industrial gas work since before the war, or who have entered this line of endeavor since the war started, might not be amiss. We have been doing no selling to speak of in recent years, but have merely been accepting such industrial gas business as the War Production Board has felt would further the war effort. Many of us may have to learn to sell all over again.

Then, after rebuilding and retraining our industrial departments, we can approach our customers and attempt to learn what their reconversion plans are and offer our aid in carrying them out, by—

First, fitting fuel burning equipment now in use into the reconversion plans. We may find it necessary to rebuild conveyor mechanisms, change burners, controls, et cetera, on gas

Presented at American Gas Association 1944 War Conference on Industrial and Commercial Gas, Rochester, New York, March 30-31, 1944.

burning equipment. Also, much of the equipment selected and installed during the hurly-burly of the conversion is now being fired with fuels other than gas, both to the detriment of the product and with production costs higher than they need be. We shall find that much of this imperfect and uneconomical equipment can be converted readily and at a reasonable expense. Our golden opportunity for getting this done will be during the reconversion period.

Second, we can make industrial sales progress now by redesigning and reconditioning idle equipment, for use on new products or for better use in making the prewar products. As you well know, there were many furnaces in use before the war that could well have been rebuilt, insulated, equipped with modern burners and controls, but were permitted to operate in a broken down condition for one reason or another. Now, if their return to service is contemplated, the time for such overhauls may be ripe. Here again there will be many opportunities for converting from other fuels to gas.

Third, we can guide and assist postwar planning, for mutual advantage, by selecting new gas burning equipment, either for old manufacturing processes that are to be revived, or for the new ones that will replace them. There may be more of this contemplated than we imagine at the present time.

Reconversion

Knowing what our customers' plans are, and having sold our industrial customers on our ability to assist in carrying them out, we must determine what furnace and other fuel using equipment will be required for reconversion. Before we can intelligently attack any reconversion problem, we must know:

1. What idle furnace equipment is available in our customers' plants, what sort of shape it is in, what fuel it is designed for, and if it is complete, or if it has been robbed for repair parts.

2. What furnace equipment is now in use, what it is being used for, its fuel, its condition, and whether or not it can readily be converted to gas, if using a fuel other than gas.

3. The condition of the gas distribution system in the plant, and what will be necessary to put it into shape for peacetime operation, when economy will again mean something.

In order to determine this, we must bring our plant surveys up to date. After we once know what the customer is planning, where gas will fit into his plans, and what equipment is available and what will have to be acquired, it then should be our job to develop for him plans, as nearly complete as possible, for the reconversion of his fuel burning equipment and distribution system.

We must bear in mind always that if we do not get into the picture at this time, it may be a long time before we get another chance. We must, therefore, leave no stone unturned in our own efforts to secure the business of the future. Neither can we afford to overlook any opportunity for taking advantage of outside assistance in attaining the goal we are after.

Now that the plant expansion program is drawing to an end, the gas furnace manufacturers are finding their business backlog dwindling away. They may find themselves with expanded plant facilities and without business on anything like a commensurate scale. Unless these manufacturers can find enough work to keep at least a skeleton organization going, they will have to shut down and perhaps go out of business. Any trend in that direction will be a dangerous one for the gas industry as a whole, and all possible steps should be taken to avoid it. Therefore, in working up conversion plans, the proper manufacturers should be called in, and they should be assisted in developing business in redesigning, rebuilding, and repairing old equipment, as well as in the construction of proposed new equipment. It may even be possible, with our assistance, for them to act as paid reconversion consultants on fuel matters.

During the period of wartime expansion and development, the manufacturers of industrial gas equipment have done wonders in development work, not only in furnace and burner design, but also in the use of controlled atmosphere, and in the application of gas heating processes. The greatest benefit possible from this work can only be had if we work with our manufacturers, and assist them in tiding themselves over the dull period that is sure to come before reconversion commences.

Sales and Load Factor

As a result of wartime expansion of pipe lines, production, and supply, many natural gas companies will find themselves confronted with the necessity of keeping their sales and load factor at a high point. This can be done in part, at least, by keeping industrial sales up, perhaps not at the present wartime levels, but higher than they were in the more or less normal prewar years. This simply means that in addition to recovering the prewar business and holding that portion of the wartime business that remains, it may become necessary to look around for additional load in rather large quantities.

There are many places where opportunities of obtaining more load exist.

The steel plants still use large quantities of producer gas and fuel oil, much of which can be replaced if the equipment using this fuel is redesigned and rebuilt for natural gas firing. Included are soaking pits, continuous heating furnaces, large heat treating furnaces, et cetera.

Industrial Outlook

One of the really large sources of potential business for natural gas is the hundreds of open hearth furnaces in use in the steel industry. Natural gas has never made too much headway here, and I still feel that in properly designed furnaces it can successfully compete with fuel oil, both in cost and speed. The latter has always been a stumbling block to natural gas. A nationwide survey of methods of utilizing natural gas in open hearth furnaces is well worthy of consideration by the natural gas industry. From such a survey, one might be able to develop a method of using natural gas that would really compete with oil. A survey of this type might be undertaken in cooperation with the Open Hearth Section of the American Institute of Mining and Metallurgical Engineers.

The heavy ceramic industry, including the brick and tile, the glass, and the cement industries, should still furnish ample opportunity for expanding the natural gas load.

In many areas, where coal and oil are relatively high in cost, power boilers will present an attractive possibility for adding load, particularly if a dump gas arrangement can be worked out.

The list of opportunities for extending our load after the war is endless and could be extended indefinitely if one cared to. I am sure of this—everyone of us has plenty of opportunities on his system of acquiring new load after the war. We must determine what they are, and when the time arrives, we must then take advantage of them.

Competitive Fuels

In all our planning, there is one thing that we must not lose sight of. Our competitors are also making

plans toward the same ends that we are or should be doing. It behooves us to keep an eye on them and to determine, as far as possible, what they are thinking about and to take measures to counter their planning.

In the last year or two, some of our natural gas customers were induced to install standby fuel, in order that vital war production might continue during periods of gas shortage. Some of these standby customers may have to be reeducated after the war on the advantages of natural gas, particularly if competitive fuel prices are reduced to a point that makes the use of oil, coal, or butane seem attractive.

The type of new load that may be available for a natural gas utility depends, in the main, on the prices of competitive fuels and the rates at which natural gas may be sold. Natural gas will replace mainly coal and oil and the prices of these two fuels will be the basis from which we can determine what business we can hope to obtain at certain gas rates. Also, and highly important, they will be a guide in setting up rates that will compete.

I am probably stating what everyone knows when I say that in setting up rates to obtain business, we must not lose sight of the use value of natural gas, which will permit rates that are much higher per million B.t.u. than are the costs of coal and oil.

Gas has played a vital part in industry before the war, is playing a more vital part now (witness the interest that our government takes in us these days), and should, if we know our work, play an equally important part after the war is all over and the reconversion period commences.

As far as determining what our after-the-war opportunities might be, there will never be a better time to do this than right now. During this period, which started when plant expansion stopped, and will continue until the war ends and reconversion starts in a big way, we must find the time to determine where we can go when U-7 is lifted and we get the green light.

Let us start in right now.

Mr. Leinroth

STATISTICS issued by the American Gas Association indicate that the sales of manufactured gas for industrial purposes hit a new all time high in 1943, being 24% above those of 1942 and 110% above those of 1939 which year may be looked upon as the last pre-war year. In other words, for us in the manufactured gas business, our industrial load is more than twice what it was before the war.

There is no gainsaying the fact that, generally speaking, a large portion of this increase in war business —gas used in the manufacture of war goods which will not be made, or at least will be made in very much decreased quantities, after the war. The reduction in the gas load due to the loss of this business poses a serious problem for those companies who have had large increases due to the war; for those companies who have had no such large increases due to the war business the problem is not so serious. But, by and large, our problem is going to be to maintain our industrial gas sales as near the peak as possible and that is a problem to which we ought to be giving a lot of thought right now.

Gas Acceptance

Industrial gas has received a tremendous impetus because of war. We have had an opportunity to sell the gas idea in a way which we will probably never get again. Manufacturers who never could be sold the idea of using gas in the pre-war years are now using it enthusiastically and are selling themselves on it.

We have made good use of our opportunity; we have done a good job in several respects. We have paid considerable attention to getting good gas burning equipment into our plants. True, some of the equipment on gas today is nothing to boast about but I think most of it is above much criticism, giving a good account of itself and selling its owner on the continued use of gas. Certainly we have a far more propitious situation today than we had in the last war when so many applications were so bad that they were anything but a recommendation to the use of gas after the war. As a result, definite prejudices against gas were set up which some of us hear about even to this day. The over all picture today, however, is one in which the industrialist is using gas in a manner that is building a lot of prestige for us and the industrial gas men on the firing line should be given a lot of credit for this. They have helped their customers select good equipment and they have helped them to operate it efficiently, and in so doing have demonstrated to the manufacturers the true value of gas, while at the same time bettering immeasurably their customer relations. This is sure to redound to our advantage in the post-war years.

Continuity of supply has also gained a lot in the minds of our industrial customers and our ability to give service with practically no interruption has been a tremendous factor in favoring gas. Delivery problems today are major problems.

Post-War Equipment

Still another factor that is going to be helpful to us is the fact that many industrial gas men have had an eye to post-war use in helping their customers select their present equipment. The question was asked "What are your post-war plans and can you use this furnace in the production of peace time goods?" Of course many times it was difficult to answer this question but many times, too, the customer had a quite definite idea as to what he was going to do and selected his equipment with his post-war plans in mind. Probably some changes will have to be made to adapt much of the present day equipment to post-war use but our customers will be able to use a large amount of their equipment after the war with only slight changes.

However, there are many cases where the customer went into a business entirely foreign to his former work and where the equipment required cannot be used in his peace time operations. For example a manufacturer of automobile springs discontinued making springs and is making 75mm. shells. This required a large rotary forging furnace which will have no use in that plant when the customer returns to making springs. He will no doubt want to sell it and get as good a price as possible for it. On the other hand he will probably be in the market for some ovens which he will need in the manufacture of springs.

Now it is entirely possible that some other customer, whom we shall call customer No. 2, will be in the market for a forge furnace such as the one customer No. 1 is using. And it is also entirely possible that still another customer, whom we shall call customer No. 3, has some ovens he would like to dispose of which ovens could be used by customer No. 1. If we could find buyers and sellers for these pieces of equipment that some of our customers will want to sell and others will want to buy, we

will at once be doing something helpful for our customers which will be appreciated by them, and at the same time we will be able to keep the equipment using gas. In other words, if we could set up some sort of buying and selling organization we would still further strengthen our customer relations and at the same time hold the gas load. This could be done in a fairly simple manner by the industrial gas men making a survey of their plants and determining what equipment their customers will dispose of and what equipment they need. The equipment should be described in enough detail as to type, size, use, etc., along with the price asked by the customer, so as to enable a prospective buyer to determine whether he would be interested in investigating it further. At the same time the industrial man should endeavor to ascertain what equipment will be required in as much detail as possible. Having completed the surveys made by the individual industrial gas men and compiled them, it would then be possible to put in the hands of each industrial gas man a list of equipment available and a list of equipment needed covering the company's entire territory. With such information he would be of considerable service to his customers as well as maintaining his gas load.

Similarly many plants have been over expanded to meet war demands and in some of those plants production will doubtless cease or be curtailed at the end of hostilities. As in the case of equipment, some companies will want to sell some of their space while others may want to add to their facilities. Surveys of this situation could also be made in a similar manner and these surveys should be compiled and put in the hands of each industrial gas man. The industrial gas man will then be in a position of knowing who wants to sell and who wants to buy and can render a valuable service in bringing these parties together.

Surveys of available equipment and plant facilities made along the lines just described should be started as soon as possible.

The local Committees for Economic Development are undoubtedly giving such questions careful thought and study and to these Committees the industrial gas men should be able to make valuable contributions. We should by all means make it a point

We keep the points sharpened

. . . on our postwar planning pencils

IT is not enough to carefully work out a postwar plan, roll it up, tie a string around it . . . and put it on a shelf for the duration.

Estate's plans for the postwar period are being continually revised, re-worked, improved and expanded as new information becomes available. And out of this continuing study, you may be sure, a final plan is coming that will enable Estate . . . and Estate dealers . . . to start *out in front.*

That's what Estate dealers naturally expect. For being *first* with the latest improvements has always been an Estate custom. Estate was first with the cabinet type circulating home heater, first with the table top range . . . first with many other major improvements.

Estate will continue its hundred-year-old record of "firsts" when it becomes possible to turn our postwar plan into action. Its up-to-the-minute thinking will reveal new product developments, sound advances in merchandising methods that will give Estate dealers a bigger edge than ever over competition.

Meanwhile, Estate maintains a constantly increasing output of the materials necessary for our fighting men . . . materials that are helping to hasten the day of Victory.

ESTATE

THE NAME TO REMEMBER IN COOKING & HEATING APPLIANCES

THE ESTATE STOVE COMPANY, HAMILTON, OHIO • House Founded in 1842

to keep in close touch with our local committees and endeavor to take an active part in their work.

Customer Contact

Today is the time to find out as much as possible about the post-war plans of our customers. While some of them will not be able to tell you much, a large percentage of them have pretty definite plans which they will discuss with you if your relations with them are good.

You already know how the consumption of gas of some of your customers is going to be affected. For example the consumption of a wholesale bread baking plant is not apt to be much affected while a company using gas for the making of munitions, which will go back to their pre-war manufacture of linoleum in which gas was only used to a limited extent, will have their consumption very much affected. Perhaps they have, through their war time use of gas, become so thoroughly sold on our product that they will apply gas on operations on which competitive fuels were used in the pre-war days.

Improved Equipment

The war, of course, has brought with it advances in gas burning equipment—new designs, new types, improvements in all directions. We know about them but do our customers? As a part of post-war planning would it not be well to point out these advances to them? We have in our company, with considerable success I think, pursued the practice of leaving with our customers such literature dealing with new developments which they should know about particularly in planning for their post-war activities. The equipment manufacturers issue a large number of brochures which we use for this purpose along with reprints of articles which appear from time to time. Does your customer know the latest in gas carburizing, atmospheres, flame hardening, etc.? Don't you think it is up to you to see that he does? Certainly it is going to be to our advantage to see that our customers use the best we have to offer when they again start on their peace time operations. And when they resume their peace time operations is a good time for them to start using equipment which is an advance over their old equipment. Furthermore, to bring them a new brochure or reprint gives the industrial gas man a good reason to call and find out something of his customer's plans. We, in our company, have made it a practice to list all available brochures and reprints, bring them to the attention of our industrial gas men, and encourage them to distribute them among their customers according to their requirements. I don't think it is exaggerating to say that the degree of success we will attain in the reconversion period is going to be in almost direct proportion to how much we know about our cutomer's post-war plans. It is essential that we learn as much as possible about them. To know them gives us the opportunity to fit ourselves into the picture before our competitors do. And when bringing to the attention of our customers what is available to them in the way of equipment for post-war operation is a good time to find out what we can of their problems. We are in a far better position today than most of our competitors due to the period of critical shortages through which they have and are passing, and for that reason alone, if for no other, your customer will lend you a sympathetic ear. We should be taking full advantage of this opportunity—we are in a period now when we can do much to further our progress in the post-war period.

MEN ON A MISSION . . .

U. S. Signal Corps Photo

The mission is . . . *crushing defeat of Axis terrorists on their own shores.* And every move we make at PAYNEHEAT today is designed to hasten that result! ★ When Victory comes, we'll again turn our "Paynes-taking" workmanship to *furnaces,* featuring . . .

***Payne* ZONE-CONDITIONING**

Post-war successor to the central furnace! Quick, clean gas heating and fresh air circulation, *controlled by zones or individual rooms.* ★ Every family that builds or remodels will be a Zone-Conditioning "prospect" for PAYNE Dealers. ★ But now, let's back those *men on a mission* in every way we can! Buy more War Bonds.

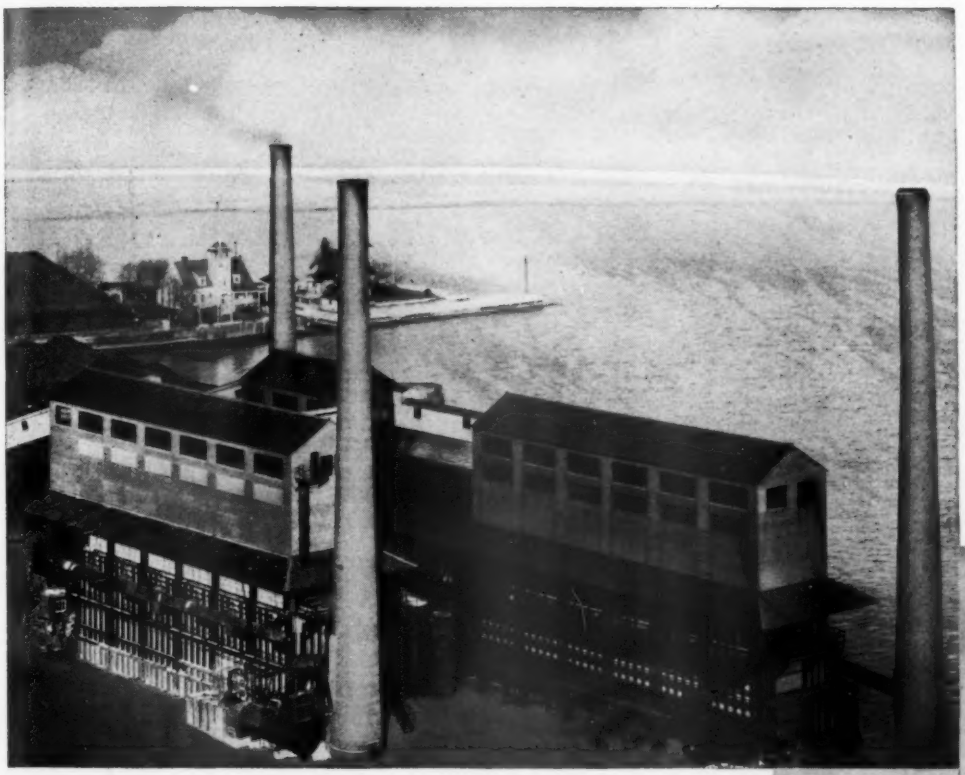
GAS FUEL DOES EVERYTHING

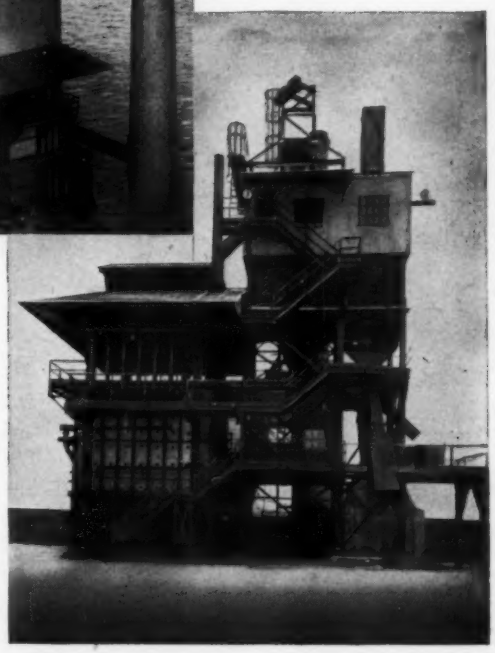
PAYNEHEAT

NEARLY 30 YEARS OF LEADERSHIP

***Payne* FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIFORNIA**

U. G. I. VERTICAL OVENS





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LARGE GAS CAPACITY
Per Ton of Coke Produced

LOW CONVERSION COST
Per M. C. F. Gas Produced

UNITED ENGINEERS & CONSTRUCTORS INC

NEW YORK PHILADELPHIA CHICAGO

Market Analysis

Immediately on the resumption of peace time production programs of the various plants a careful market analysis should be made showing for each industrial plant the competitive fuel operations, amounts of competitive fuels used, prices of competitive fuels, potential gas business, gas rate necessary to get business, etc. However, we can do much now to forestall the installation and operation of competitive fuel equipment and certainly we should not wait until the resumption of peace time production before actively working with our customers with the post-war period in view.

Since the start of the war equipment manufacturers and industrial men have, I think, drifted apart. There are several reasons for this. A large amount of equipment business has been ordered direct and the equipment manufacturers have had such a job of filling their orders that they have been giving scant attention to soliciting additional business. Often representation in the territory disappeared entirely for one reason or another. On the other hand gas company policy often precluded the active solicitation of new business. the net result of all this was that the manufacturers' representatives and the industrial gas men were not in as close touch with each other as in the pre-war days of active selling. This should be corrected as soon as possible for our success depends in no small measure on close cooperation between the equipment manufacturer's representative and the industrial gas man. Moreover gas companies should set down a definite policy of recommending only such equipment as will enhance the reputation of gas and of giving preferential support to those companies who manufacture such equipment and plow back part of their earnings into research and development. We must make it possible for such manufacturers to continue to spend money in research and development if we are to advance. Just because a manufacturer makes a piece of gas equipment and wants to sell it is no reason why we should give him our active cooperation.

Replacements

In the commercial field many of our customers are struggling along with worn out, obsolete and inefficient gas equipment. It is going to be our job to see that this equipment is replaced with modern and up-to-date equipment just as soon as possible. To carry out this assignment it is necessary to know where such equipment is and this can only be ascertained by making a survey. The Food Service Equipment Committee of this Section has devoted considerable of their energy in this direction and have prepared an excellent guide for carrying out such a survey under the title "Why and How to Survey the Commercial Cooking and Baking Field." I commend it to you for careful study.

Many of our former commercial customers were forced out of business due to restrictions installed as war measures. The restrictions on gasoline and the ban on pleasure driving, for example, affected very seriously restaurants and eating places requiring an automobile to reach them. Many of these have been closed for "the duration." But with the lifting of the restrictions they will no doubt start in business again. We should see to it that they then use gas and use it through efficient equipment. Both from an offensive and a defensive standpoint it is necessary that we make a survey of our commercial customers, so that we may know our potential market and the state of our present business.

The war has accelerated greatly the development of industrial gas equipment. We should come out of the war with much improved methods of applying gas industrially. Unfortunately no such accelerated development has taken place in the commercial field. This is easy to understand when we consider the great demand for and sale of industrial equipment and the very restricted sale of commercial equipment. It is important that we take cognizance of this situation. The public is going to look for something new in the post-war period—new automobiles, new refrigerators, new houses, new everything. We can't afford to go back and pick up where we left off. We have something new to offer our industrial customers. Will we have something new to offer our commercial customers? Certainly our competitors are giving this angle considerable thought, if I read their advertising right. Fortunately the Food Service Committee is already at work on this problem which is a problem of first importance, the solution of which calls for the close cooperation of all of us—manufacturers and gas companies.

Sales Plans

It is not too early to make definite post-war sales plans. Perhaps we will have to make some changes in them as time goes on, but we should know today definitely what we would do if the war ended next month. We should have an allocation of man power based upon studies of our projected post-war customers and markets. We should have set up our sales policies and methods. How about manufacturers and dealer cooperation and what advertising are we going to do? These things we should know—not only should we have them in our minds, but down on paper with management's approval as well. There is no rule against reviewing these plans from time to time and revising them. But don't have the war stop and let us find ourselves wondering what we are going to do. There is a tremendous lot of post-war planning going on today and many sales departments are going to be off their marks fast as soon as they hear the boom of the starting gun. We can't afford to get off to a poor start.

In closing I can't help but express the pride that I, and I am sure you too, must feel in our recent accomplishments. When the war started we had a responsibility and we had an opportunity—a responsibility to make a really important contribution to the war effort—an opportunity to render a real service and in so doing build a prestige for gas that would react greatly to our advantage in the post-war years. We may all well feel proud of the job we have done and in this realization I am sure that we can all look to the post-war years with renewed and augmented confidence.

Hammel Radiator Eng'ng Co. Plans Post-War Expansion

One of the first steps in carrying out the present ambitious post-war expansion plans of the Hammel Radiator Engineering Co. of 3348 Motor Ave., Los Angeles, was the appointment of L. M. Hull as sales manager of the Heating Division.

Mr. Hull, a heating engineer with long experience in the design and merchandising of gas and oil heating equipment, has been especially assigned to the job of developing post war heating equipment and laying plans for National extension of the company's sales activities. His previous experience with Payne Furnace & Supply Co. and Pacific Gas Radiator Co. fits him ideally for this assignment.

A complete line of residential, industrial and commercial gas heating equipment is planned for post-war manufacture and National merchandising plans are now being formulated.

West Coast Technical Conference

MORE THAN 200 gas equipment and appliance manufacturers and gas company executives, engineers and technicians attended the two-day West Coast Technical Conference on Domestic Gas Research at the Ambassador Hotel, Los Angeles, March 15 and 16, technical data presented were identical to that of the Cleveland, O., conference, Feb. 17 and 18.

Eugene D. Milener, secretary of the A.G.A. Committee on Domestic Gas Research, opened the Los Angeles Conference; then introduced W. M. Jacobs, manager of general sales, Southern California Gas Company, and chairman of the P.C.G.A. Post-War Appliance Committee, who presided at the Wednesday morning session. After an address by Harry L. Masser, executive vice-president, Southern California Gas Company, and chairman of the P.C.G.A. Committee for Industry Development, on the necessity for immediate development of new and improved features for gas appliances, technical papers on gas burner design and noise and heat transfer factors were presented by F. A. Allen, A. A. Jacquot and W. R. Teller of the A.G.A. Testing Laboratories.

Arthur F. Bridge, vice-president and general manager, Southern Counties Gas Company, presided at the luncheon which followed the morning session. F. M. Banks, vice-president of the Southern California Gas Company was the speaker.

The afternoon session was addressed by Director R. M. Conner, F. A. Allen and K. R. Knapp of the Association's Laboratories staff on practical phases of gas cooking and water heating research.

Additional papers covering design and performance features of gas burners and gas water heaters were presented by Messrs. Conner, Knapp and Teller at the Thursday morning session.

E. L. Payne, vice-president and general manager of the Payne Furnace & Supply Company and president of the P.C.G.A., presided at the Thursday luncheon. He introduced as first speaker Mr. Conner, who spoke briefly on the part taken by the laboratories in the research program, after which A. H. Sutton, chairman, Manufacturers Section, P.C.G.A., addressed the meeting as follows:

"While the primary purpose of this conference is to give you the complete story of the important research

E. L. Payne
President
Pacific Coast Gas Assn.

work which is being done by our A.G.A. Laboratories, it is hoped that it will have the further result of stimulating sufficient interest on the part of manufacturers, that out of it will arise industry wide determination to improve our appliances for the postwar period.

"It would be difficult to appraise properly the part that engineering and research have played in the building of the gas industry. Even such a term as 'major part' is totally inadequate. Engineering and research, and all that it comprises, is a fundamental activity in an industry like ours, important as manufacturing itself.

"While we cannot foresee the changes that face us in the postwar period, I think, the field of research and design will have to be given more serious consideration in our future plans if we expect to maintain, as an industry, our present position in the appliance field. Upon our willingness to accept new ideas, new methods will in no small measure be the yardstick of our accomplishments. A business or industry to be successful must be receptive to new ideas; have the willingness to accept suggestions, out of which may come improvements in productive processes, in more efficient methods and better design. We must be flexible enough to meet the adjustments which current conditions demand. Rigid policies stifle any business and lower its competitive capacity.

"It is recognized that the gas industry is a big business as such. However, the manufacture of the appliances that use the fuel come under the classification of small business by comparison with other manufacturing lines. This, in itself, is both a handi-

Photo Art Streib

Checking the day's program at the Conference. Left to right, Eugene Milener, A.G.A., New York; W. M. Jacobs and A. H. Sutton, Los Angeles.

cap and a help. While it is true that we do not enjoy some of the technical advantages that size alone bring, our very numbers give us the economic seed bed from which rise the majority of new ideas and new methods. As individual companies we lack the extensive research facilities enjoyed by some of the larger manufacturers of competitive appliances. This is a handicap but not one which cannot be overcome.

"If our manufacturers will meet this challenge with the same spirit of ingenuity and resourcefulness shown in the production of war goods, we shall equal or excel the achievements of our competitors. We have an industry problem and its solution depends upon our willingness to contribute to a common pool ideas and improvements for the betterment of our appliances which wartime conditions have fully demonstrated we possess. To supplement our individual efforts in the field of research we have at our command laboratories of the American Gas Association which rank second to none in their respective field. These facilities plus our own efforts give us little reason to fear competitive manufacturing because of size alone. If our products do not keep pace it will be because we have failed to exploit fully our advantages.

"I know that the subject of appliance improvement is of very vital concern to utility companies and one which we can count on for their help and support. However, we should neither ask nor expect them to do a job which is the responsibility of the manufacturers. It is up to us to accept the leadership and initiate a broad, long-term program of product refinement, both for our own interest and that of the entire gas industry.

"As a result of wartime demands, the nation's plant capacity, much of it readily convertible to the production of consumer durable goods, has undergone a tremendous expansion. This fact alone makes more evident than ever the need for sustained advertising on the part of the gas industry. Utility companies and manufacturers alike will have to expand their advertising budgets. To meet these new conditions we need to reappraise our position, for I do not believe the solutions of any of our present problems are to be found in the past. The facts of today compel new answers.

"The responsibility for promotional advertising, I think, properly belongs with utility companies. Such expenditures must be supported by manufacturers with strong campaigns of product advertising of sufficient magnitude to equal in scope the efforts of manufacturers of competitive appliances. This can only be accomplished through a cooperative plan supported by all of our manufacturers, large and small, working through their various association product divisions. I see no other solution to the problem, for there are few, if any, of our manufacturers large enough to engage in product advertising on a scale necessary to maintain leadership in the home appliance field.

"It is my opinion that gas appliance manufacturers, as a whole, are entirely too complacent in their views as to the possible inroads that may be made in our markets by appliances using competitive fuel. While I know it is the consensus that the buying public will have more money to spend in the immediate postwar period than ever before in peacetime, it would be a fallacy to assume, even if this be true, that we can maintain our sales volume by offering substantially the same merchandise sold in prewar years. If we follow such a policy and fail to keep gas appliances the last word in safety, performance and design, then we shall have forfeited our right to the home appliance market which we enjoy in such large measure today.

"We shall need courage as well as ingenuity and perspective to overcome the difficulties that will presently confront us, but any business needs courage. It can solve its problems only by facing them courageously and constructively. Fortunately for us the gas industry in its more than one hundred years of existence has acquired a broad perspective. This broad perspective, and the wisdom that goes with it, will stand us in good stead in the trying period ahead for the older an industry grows the more valuable its perspective becomes for the simple reason that it has vastly more experience to look back upon."

F. M. Banks (left) and Harry L. Masser, Los Angeles, inspect one of the exhibits at the West Coast Technical Conference.

Automatic Controls. Bulletin P1200 of The Bristol Company, Waterbury, Conn., illustrates and gives details of their "Pyromaster" pyrometer controllers covering both thermocouple and radiation types for temperature control in electric, oil and gas furnaces, kilns, ovens and dryers.

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• *boost* production

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Today, with the fate of civilization depending on the speed and efficiency of our war-output, these advantages cannot be overstressed:

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All sizes up to 3,400 cu. ft. capacity

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LARGEST GAS COMPANIES NOW USING OUR PARTS

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manufacture a complete line of Gas Control Regulators. Each and every one in its line is designed and built to meet a specific requirement of the Gas Control field.

Correct principle, sound design and dependable performance are just three of the many reasons why Reynolds Gas Control Units enjoy preference on most specification sheets. These careful buying gas executives also know that the unquestionable after-installation performance of every Reynolds Unit is backed by more than half a century of experience.

When your next Gas Control problem arises, call REYNOLDS —their cooperation policy is one too important to overlook.

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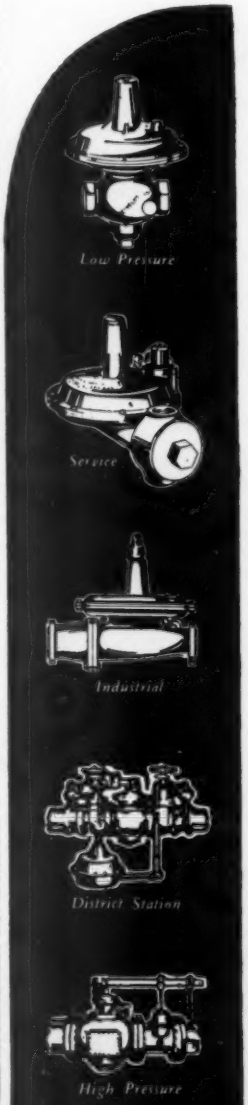

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District Station Regulators:
Single or Double Valve. Auxiliary Bowl and Automatic Loading Device Optional.

High Pressure Line Regulators:
Pilot Loaded—Pilot Controlled.

Toggle Type Regulators:
Single Valve, Double Valve, Triple Outlet.

Seals:
Dead Weight or Mercury.

Relief Valves:
High or Low Pressure.

Back Pressure Valves:
Automatic Quick-Closing — Anti Vacuum Valves—Automatic Shut-off Valves, Lever Operated Valves—Louver Operated Device—Atmospheric Regulators—Vacuum Regulators.

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RECENT COURT DECISIONS *Affecting Gas Utilities*

Avoid Liability on Gas Company Damage Suits

By
Leo T. Parker
Attorney at Law
Cincinnati, Ohio

NUMEROUS modern higher court decisions are in discord with the older courts. For this reason gas company officials, and employes, should use care to keep abreast with new decisions. Failure to do so, or reliance upon the law established by the older decisions, may result in heavy liability, considerable inconvenience, and loss of time.

For illustration, in the late case of Scarborough v. Central Arizona Light & Power Company, 117 Pac., 2d, 487, the higher court established important law as follows:

(1) If a gas company employe turns gas into a meter when he has actual knowledge, or reasonable ground to believe, that the house fixtures are defective he is legally negligent, and the company is liable for resultant damages; (2) if the employe knows that a gas meter leaks and gas escapes into premises other than those into which he has been directed to turn on the gas such employe is legally negligent but the company is *not* always liable in damages to the occupants of the premises where the employe was directed to turn on the gas; (3) if the company employe has no actual knowledge that pipes, accessories, etc., *under the control* of the occupant of the premises, are defective the employe is under *no* obligation to make an inspection of such pipes and fixtures *before nor after* he turns on the gas.

This is important law and we shall hereinafter review higher court decisions illustrating details of the modern law on this subject.

For instance, in the above higher court case the testimony proved that a gas company employe turned on the gas at a meter outside a house without examining the condition of the gas pipes inside the house. Some of these pipes were uncapped which permitted gas to permeate the house. The occupants suffered severe injuries, resulting from an explosion, for which they sued the gas company for damages.

It is interesting to observe that this modern court refused to hold the gas company liable, and explained that it is a duty of a property owner to inspect pipes, accessories, and fixtures *under his control* before ordering the gas company to turn on gas.

The important result of this late decision is that irrespective of who owns pipes, fixtures or accessories the *one who controls* same is under a legal duty to exercise an ordinary degree of care to know that no damage will result from turning on gas. And obviously this same law is applicable with respect to all other injuries to persons or property.

For example, in 148 S. E. (2d) 248, decided during the past few weeks, it was shown that a pedestrian stumbled over a meter box. The higher court clearly stated that the one who had control over the box may be liable, and that ownership of the box was not an important element to be considered.

What Is Negligence?

In all late legal controversies involving injuries caused by gas explosions modern higher courts hold that "negligence" is the failure to do what a reasonable, prudent and experienced person would ordinarily have done under the identical circumstances.

For example, in Wilson, 156 S. W. (2d) 1010, it was disclosed that a superintendent of a gas company was notified by a consumer of a gas leak. He neglected to promptly turn off the gas and a fire started. A city fireman was seriously burned when the gas exploded. The fireman sued the gas company for damages.

The higher court held the gas company liable and explained that it was the duty of the superintendent to turn off the gas *with reasonable promptness* when notified that a leak had been discovered.

In other words, the higher court held the gas company liable primarily because the superintendent was "negligent" in failing to turn off the gas *immediately* after receiving information of the leak.

Not Proximate Cause

In all litigations involving injuries to persons and real property the important consideration of the court is: Was negligence of the gas company officials or employes the proximate cause of the injury? If the answer is in negative the gas company is not liable. In other words, if an injury results from negligence of the injured person no company liability exists.

For example, in Hargan v. Louisville Gas & Electric Company, 159 S. W. (2d) 50, the testimony disclosed facts, as follows:

Certain gas company employes removed a pipe line and threw dirt on the road with the permission of the highway department. At night the employes placed small flares by the side of the obstacle and ditch. The driver of an automobile was seriously injured at a location where the dirt blocked the road and he sued the gas company for damages. He relied on negligence of the gas company employes in failing to maintain sufficient light upon and about the pile

of dirt to warn the traveling public of the unsafe and dangerous condition of the road at nighttime.

During the trial testimony was presented which proved that the injured driver knew that the pipe line was being repaired but notwithstanding this knowledge he operated his automobile at a speed of thirty to thirty-five miles per hour in this dangerous location. Therefore, the higher court refused to hold the gas company liable, and said:

"We think it clear that the proximate cause of the collision was appellant's (driver's) own action in operating the car in the manner he did. . . . Certainly, the failure of the appellee (gas company) to maintain lights for the purpose of disclosing this dangerous situation was not the proximate cause, since the lights would only have served to reveal a situation of which the appellant (driver) was fully aware."

Therefore, in cases of this nature the gas company may avoid liability if the testimony proves that the injured person had knowledge of the dangerous condition, irrespective of warning lights, barricades, and the like.

When Contractor Is Liable

Ordinarily a gas company is not liable for injuries resulting solely from negligent acts of contractors.

For example, in Chutuk v. Southern Counties Gas Co. of California, 125 Pac., 2d, 75, it was disclosed that a gas company operated and maintained a gas main which was located 30 inches below the surface of the street. The service pipes which took off from the top of the main were about 2 feet beneath the surface of the ground.

The gas company received notice from the city that a sewer line was going to be placed in the street. Immediately the gas company began an inspection of its gas pipes and made certain repairs.

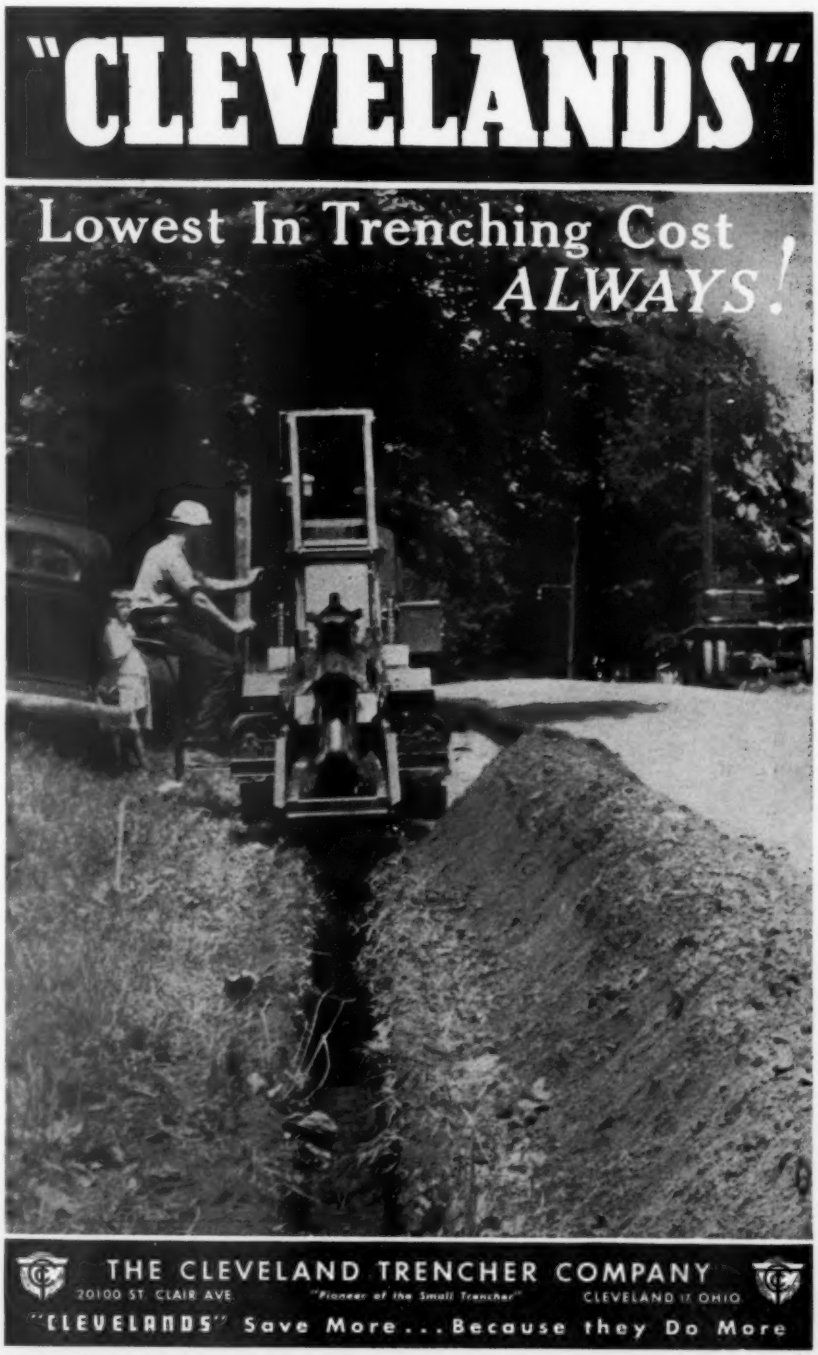
The sewer contractors commenced their work under the direction of the engineer who was in full charge of the work. The contractors used a mechanical digging machine. One of the employes of the sewer contractor testified that the machine struck a 2-inch service pipe of gas. After the accident it was found that this service pipe was bent and at its connection with the 6-inch main the threads were broken, permitting gas to escape and seep into a manhole. Soon afterward an explosion occurred in the manhole seriously injuring certain workmen who sued the gas company for damages. In holding the company *not* liable, the higher court said:

"We find from the evidence that there was testimony that the gas which found its way into the manhole in which plaintiff was injured escaped as a result of the damage caused by a mechanical ditch digger operated by the sewer contractor."

On the other hand, it is important to know that under somewhat different circumstances the gas company may have been held liable. For example, if the company officials had received notice of the damage to the main caused by the digger, and had failed to exercise reasonable diligence and care to repair the defect, the court may have held the gas company liable. This is so because under these different circumstances negligence of the gas company officials would have been the *proximate* cause of the injury.

Installation Rules

Various higher courts have held that where a gas company agrees to install equipment or gas accessories its officials and employes are obligated (1) to know of the dangers characteristic of the instrumentality, and of the manner and means by which the dangers are likely to eventuate into actual harm; (2) such employes must use that degree of care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which is commensurate with the danger to guard against injurious consequences.

Another important point of law decided by a modern higher court is that when installations are being made by a contractor, and the work being done is likely to result in a dangerous condition *known* to the gas company officials, such officials are legally obligated to inform the property owner of the apparent danger.

For illustration, in American Heating and Plumbing Co., v. Grimes, 4 So. (2d) 89, it was shown that a contractor installed in a building a gas stove in close proximity to wood studding. Soon afterward the building was destroyed by fire and suit was filed against the gas company. The court said:

"In the event the installer of the heater fails to forewarn the owner he will be liable for the consequent damage to the same extent as if he himself had done the work which brought about the dangerous situation."

Obviously, the law established by this modern higher court was based upon the testimony and law that who performs work in a newly constructed building are duty bound to eliminate dangers and defects to the best of their *ordinary* ability. And failure of a gas company employe to notify a consumer of *known* dangerous or defective conditions of his gas pipes, fixtures, and the like, is legal negligence. On the other hand, as above explained, a property owner who orders gas turned on is legally obligated to use reasonable care to know that the pipes and fixtures he controls are safe.

Brief Review

Readers may find it advantageous to have at hand a record of late and important higher court cases involving different subjects of law. See following:

When inspection of connections is necessary before turning on gas, 268 Pac. 930; when gas company employes exercise ordinary care and avoid company liability, 264 Pac. 532; the degree of negligence must be proved by a consumer who can recover damages from a gas company, 275 Pac. 164; a gas company is not liable for ordinary injuries to trespasser, 166 N. E. 374; when a gas company is liable for injuries to trees, 141 N.Y.S. 838; the degree of proof consumers must establish to obtain verdict for damages in explosion cases, 31 F. (2d) 671; the legal duty required of a gas company to protect employes against injuries, 20 S. W. (2d) 376; when a gas company is liable to a property owner for fire loss, 282 Pac. 303; when a gas company is liable for negligence of its employes effecting an injury caused by inhalation of gas, 37 S. W. (2d) 454; when a gas company is not liable for an injury caused by negligence of its officials or employes, 289 Pac. 402.

Natural Gas Statistics

The Federal Power Commission has published "Statistics on Natural Gas Companies" containing financial and operating information on 118 gas companies. Copies can be obtained at a cost of 50c each (F.P.C. S-33) by application to the Commission in Washington.

Growth of Gas Sales

Gas sales to consumers by the Public Service Electric and Gas System of New Jersey during the past five years were as follows:

	Sales of Gas in Cubic Feet	Per Cent Increase Over Previous Year
1939	26,606,775,900	3.94
1940	28,656,941,200	7.71
1941	30,243,379,700	5.54
1942	33,957,025,600	12.28
1943	36,740,815,000	8.20

Gas meters in service December 31, 1943, numbered 912,986, a net gain of 6,316.

March of Time Film "Post-War Jobs"

Louis Ruthenburg, president of Servel, Inc., Evansville, Ind., and state chairman of the Committee for Economic Development, spoke recently at the Evansville premiere showing of the March of Time film, "Postwar Jobs."

In his talk Mr. Ruthenburg emphasized the progressive attitude Indiana firms are taking in making positive postwar plans for increased employment.

"The Committee for Economic Development has defined our objectives," Mr. Ruthenburg said, "but the postwar future of Evansville will be determined by what is done by the people of Evansville. Local business management is making an important contribution by planning now to provide a large number of post-war jobs."

This premiere showing was attended by members of the Evansville Postwar Planning Council and was also addressed by F. B. Culley, vice-president of the Southern Indiana Gas and Electric Company and chairman of the Evansville Postwar Planning Council.

Mr. Culley emphasized the importance of postwar planning in order to give returning servicemen "good, old-fashioned American jobs." He also stated that the progress of the Evansville Postwar Planning Council is quite satisfactory and that definite results are being obtained in their work to arrange for an orderly reconversion to peace-time pursuits in a postwar world.

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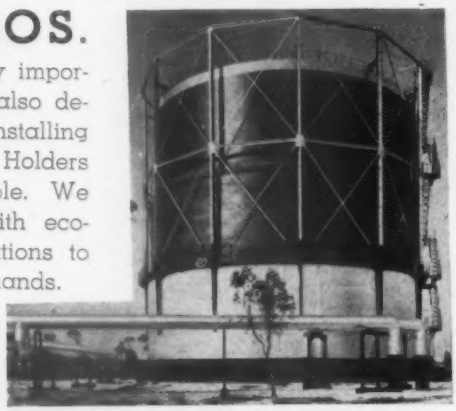

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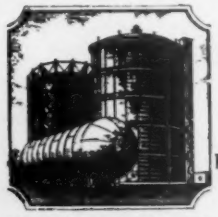

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We'll Always Need Gas

By
C. George Segeler
Engineer of Utilization
American Gas Association

JUST BECAUSE I say "We'll Always Need Gas" does not make it so. You remember Abe Lincoln's famous conundrum about how many tails a dog would have if every leg were a tail. To those who naturally said "five," he countered, "Calling a leg a tail don't make it so!"

So it is up to me to prove my point.

To begin with, our industry rightly watches its competition with an alertness that sometimes borders on alarm. Yet, gas plays such a part in the every-day life of the community, that there is no one competitor that can displace gas no matter how aggressive the attack. We know how gas provides a quick, low cost and convenient fuel for cooking, refrigeration, and water heating, how it serves for house-heating, and how it fits in commercial and industrial applications. For most of these needs, gas is indispensable; for some, no substitute exists.

Those who are gloomy about the future can only be thinking about electricity as the energy which will replace gas. But, in so doing, they overlook the unlimited possibilities of gas expanding into those fields now served by coal and oil as well as the ability of the gas industry to hang on to the business it has already earned.

Decline in Domestic Use

Close at hand, we can view a history of declining domestic sales and revenues per customer, while the total sales have greatly increased. The war has reversed the trend of declining domestic sales to some extent, at least for the time being, but in general, the gas industry has had to face these unpleasant facts. Of this decline, practically no part has been played by loss of customers—a most significant point. The decrease is a reflection of a smaller use of gas per meter. In Interim Bulletin No. 40, released by the American Gas Association in 1938, the decline was ascribed to such factors as change in living habits, less cooking and washing, the closing of large houses, the trend towards apartment house living, and the use of more efficient appliances, and so on.

The electric range and water heater do not appear to have been important factors in this picture. Not only is the saturation of these appliances small in New England—around 4% in the case of the electric range—but the all-electric house ceases to be a gas customer at all and, therefore, does not enter in the figures making up a declining sale of gas per meter. Practically every study of the changing gas markets agrees with this thought—that the electric range has not been the major cause of the decrease in gas use per customer.

In addition to the factors previously held to be the cause, there is good evidence that the shrinkage in the size of the New England family in the ten year period, 1930 to 1940, may be an overlooked, yet vital, influence.

In the case of the electric industry, there has been a steady growth in the sale of electricity per meter in the face of all the factors which have caused a decline in the sale of gas. It is believed that this is due almost entirely to the steady increase in the number of different electric appliances in the home not to increase in the use of appliances per se. If this be the situation, then it leads to an inescapable conclusion—the gas industry must do likewise, and I underscore the word "must." This means that the core of the future gas marketing problem is in the use of additional appliances in existing customers' homes.

New Home Market

Of course, the new home market is important not only because it is a new market but also because of the important influence which it has upon the thinking of old customers. So, it must be given its full share of attention. But, I don't see how such work, no matter how successfully accomplished, will reverse the trend already observed.

The gas ndustry faces a tough problem, but not a hopeless one. To help analyze the facts, let us look at the 16th U. S. Census which, among other things, carefully covered urban, suburban, and rural housing information. The urban data as of 1940 describes gas company territories with reasonable accuracy for these purposes.

Presented at the New England Gas Association Business Conference, Hotel Statler, Boston, March 23, 1944.

URBAN HOUSING DATA*
New England States
as of 1940

Total Dwelling units in New England—all types	2,201,421
Urban Dwelling units (occupied—vacancies amounted to 4%)	1,674,259
Urban Tenant occupied dwelling units 64.6% =	1,081,514
Urban Owner occupied dwelling units 35.4% =	592,745

There has been a marked decrease in % of owner occupancy since 1930

Considering only urban dwelling units;
Occupancy declined from 4.16 persons per dwelling unit in 1930 to 3.83 persons per dwelling unit in 1940. This is an 8% decrease which is one important reason for the decline in residential gas use.

One family structures are about 35% of the total.
Wood buildings predominate.
Detached one family homes are the most numerous single group with two family next.

URBAN HOUSING DATA*
New England States
as of 1940

Occupied Urban DU reporting a cooking fuel:

		Coal Coke	Wood	Gas	Elec.	Gasoline Kerosene
Maine	86,932	8577	24,157	21,531	6622	16,593
N. H.	74,325	5149	16,462	21,713	7033	21,345
Vt.	32,144	2757	5722	10,458	4712	7794
Mass.	983,733	85,115	22,098	623,889	36,297	180,643
Conn.	299,000	22,782	5064	219,375	12,111	30,998
R. I.	169,891	13,645	2690	109,793	5330	33,594
	1,646,025	138,025	76,193	1,006,759	72,105	290,967

* *Source 16th U. S. Census*

Urban and Suburban Units

First, we might note that there are altogether 2,200,000 dwelling units in the six New England States. The urban dwelling units are in the majority and probably correspond to the area served with gas. Some suburban and farm areas also have gas but to a rather limited extent, and the facts about the urban units are sufficiently striking to warrant attention. Anyway, the occupied urban dwelling units amount to 1,674,000.

And now, we come to the first tough point. Tenants occupy almost 65% of these dwellings. Owners only occupy 35%.

It seems to me that the tenant-occupied dwelling interposes a very high hurdle for major increases in gas sales. Landlordism being relatively unprofitable—and I speak from personal experience—it is hard to persuade an owner to spend money on new appliances as long as the old will still operate. Nor can you expect the tenant to spend his money for permanent improvements to a house which he only rents.

Thus, the occupant of the house will hardly ever buy gas for water heating or house-heating, no matter how much he might like to use gas appliances. And the owner of the house will let the coil or the pot stove do the job as long as possible. In some communities, it is the practice to furnish ranges and refrigerators with the dwelling unit while in others the renter brings his own. This complicates marketing studies, but not sufficiently to change the general conclusions that the large rented-home market requires unique treatment in order to show substantial progress toward greater gas use. If a tenant can take his equipment with him when he moves or if he can rent a given type of gas service, then a major obstacle in selling gas is overcome. If the appliances must be bought by the landlord, the saturation figures, now typical, will not readily be improved.

It is doubtedly the easy portability of electric appliances that has made them so easy to sell in the very markets that resist gas. But, as the figures show, fixed electric appliances, like water heaters and ranges, have made slow progress and are subject to the same limiting factors plus higher first costs and operating expense.

Renting Appliances

To penetrate a tenant market, the idea of renting appliances or renting a service might be given consideration. If appliances are sold, some plan permitting them to be moved to a new location should be developed. These schemes would offer incentives for those living in rented homes to enjoy the higher standard of living made possible by gas appliances. Otherwise, two-thirds of the apparent market for gas is apt to prove to be no market at all or, at best, a poor one. On account of the large number of meters involved, the solution of this problem should offer greater rewards in reversing the trend of declining revenues. In fact, some gas companies apparently are already embarked upon such efforts; there are several selling hot water service, and there are gas companies working on enlarged appliance rental plans.

Decline in Occupancy

Further considering only urban dwelling units, we are struck by the Census report that the occupancy has declined from 4.16 persons per dwelling unit in 1930 to 3.83 persons per dwelling unit by 1940. This is an 8% decrease in occupancy, and it undoubtedly is one major reason for the decline in residential gas use. The Census figures do not reveal it, but it is believed to be true that this decrease is primarily a decrease in the infant population. Needless to say, it is these young folk who use proportionately larger amounts of hot water and lots of special cookery so that they probably are a major factor in the decline in gas use.

Appliance Saturation

Now, let us turn for a moment, to a consideration of the present appliance saturation because there are some striking items that show up. Taking gas and electric ranges together, we find that only 65% of New England urban homes have them, 61% being gas. That is in spite of the fact that gas and electric ranges have been on the market for many years. But radios are in 96% of the dwellings, and mechanical refrigerators—on the market only about twenty years—are already in 51% of the houses. Superficially judged perhaps, yet these figures indicate that marketing methods and sales effort behind radios and refrigerators—both readily portable—have stimulated public desire for these conveniences to a greater extent than for modern gas ranges and water heaters. Nevertheless, the importance of the latter, for the home in general, and for the housewife in particular, is undoubtedly far greater than that of radio and refrigerator. And this applies whether figured out on the basis of hours or daily use or what they do for the user. In the face of this knowledge, the statistical facts on gas appliance saturation remain a rather bitter pill to swallow. The bright side is the opportunity left for increasing the gas load through the solution of the marketing problem in the tenant-occupied housing. It is no exaggeration to point out that to thousands of these families a modern 1946 gas range and other gas appliances would be a revelation and a miracle. Those of us who grow up in daily contact with the changing aspect of gas appliances cannot conceive how poorly informed the average layman is about the rev-

URBAN HOUSING DATA*
New England States
as of 1940

APPLIANCE SATURATION
URBAN AREAS

Appliance	No. in Use	% of Urban DU
Mech. Refrigerators	836,294	50.8
Radio	1,564,638	96.1
Ranges—		
Gas	1,006,759	61.0
Kerosene & Gasoline	290,967	17.8
Coal	138,025	8.4
Wood	76,193	.4.6
Electric	72,105	4.4
Water Heaters	Not Known	
House Heating—		
Central	1,023,859	62.2
Non-Central	622,736	37.8
Central Heating Fuels—		
Coal**	676,000	66.0
Gas	15,348	1.6
Oil**	265,000	25.9
Non Central Heating Fuels—		
Coal**	207,000	33.3
Gas	5,834	6.0
Oil**	315,000	50.6
Others & Non-reporting	Balance	

* *Source 16th U. S. Census*
** *Estimated*

URBAN RANGES

	Total DU	% of total DU Gas	Elec.
Maine	94,787	24.8	7.6
N. H.	79,549	29.2	9.5
Vt.	33,746	32.5	14.7
Mass.	1,059,441	53.4	3.7
Conn.	314,076	73.4	4.1
R. I.	181,143	64.6	3.1
	1,762,742		

* *Source 16th U. S. Census*

olution in gas service in the home. The report of R. E. Ginna on Gas and Electricity in the Homes of Tomorrow delivered at the American Gas Association convention last October deserves study in this connection. He made a most significant appeal for greater efforts on the part of the gas industry in meeting the challenge of this competition.

Unfortunately, I cannot give you statistics about water heaters because the Census figures did not show them, and efforts made by the American Gas Association to secure the data through annual questionnaires have not been successful since the data was only available from a few gas companies. It is believed that from 25% to 30% of the homes have gas water heaters, basing this on the results reported by those few cities. The market for gas water heating ought to be "tops" right now since the shortage of coal, and particularly fuel oil, would make the use of a gas water heater highly desirable. At present fuel oil prices, the gas water heater would be cheaper to operate, and it would help to save oil in addition. Both of these factors are likely to be an influence for a long time to come, and I think that that is a good omen for the gas water heater market.

Central and Kitchen Heating

The case of central heating and kitchen heating is more difficult to analyze. Whereas gas is unimportant census-wise, the potential in this field is the biggest we have, and yet, we are not entirely certain regarding the steps we should take on account of the peak load problem. About 62% of New England's urban dwelling units have central heat, of which 75% are wet heating systems. Forced warm air is growing rapidly in the new house market where gas for heat has high public acceptance and can readily spearhead campaigns for all-gas housing. The kitchen heating program appears to be New England's specialty, and it has been so well studied by you that comment seems unnecessary. The market is attractive alhtough circumscribed by predominance of low income levels and high percentage of tenant occupancy. If a gas company is in a position to attack the house-heating field in so far as gas supplies and rates are concerned, then the post-war era should be a field day what with fuel shortage experience still in the public mind.

Future Markets

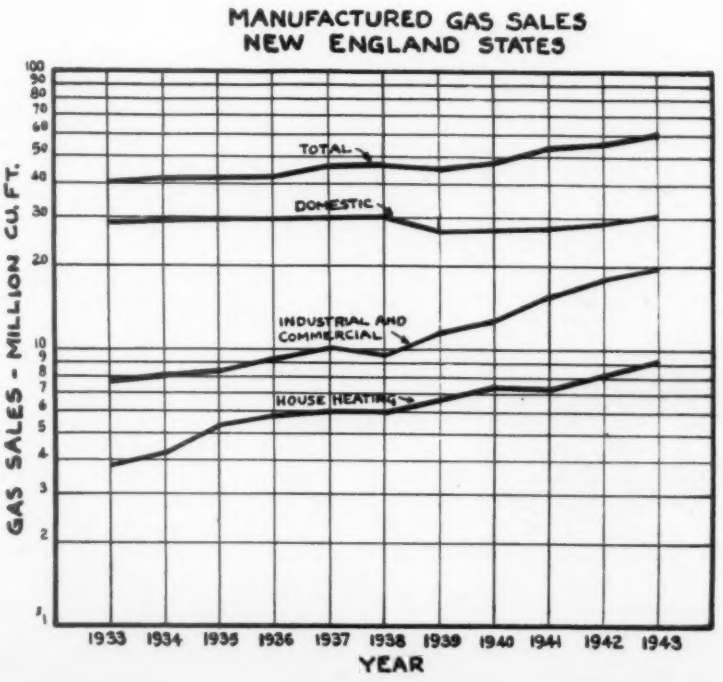
Turning now from gas markets to the other possibilities of the gas industry, may I draw attention to the factors at work which will make the manufactured gas companies now, and in the future, vital to the needs of the United States. Indeed, it would be nothing short of a national calamity were the stability of such companies undermined.

The handwriting is already on the wall that there is a day coming when we must expand the utilization of coal for the production of coke, gas, and organic industrial materials whether they be motor fuels, lubricating oils, plastics, rubber, or synthetic yarns.

Some day, as our oil reserves diminish, synthetic methods must take their place. This will occur as a gradual process and will once more cause a tremendous expansion in the gas business. The economics of synthetic products made from coal rather than oil become favorable as oil prices rise, which they have already started to do; now, as a result of war scarcity, but later, on account of rising exploratory and production costs; and finally, on account of the high cost of working oil-bearing shales. To be sure, it may be necessary to revise some of our concepts of by-product development by the manufactured gas industry, but this is a minor matter. The important fact is that the gas industry is indispensable in this picture.

New Production Methods

The industry's recognition of these facts is already shown in the new and growing attention paid to the development of new processes of gas manufacture. One research program under way claims to maintain the advantages of a peak load operation like carburetted water gas combined with the by-product yield of the coke oven and without so heavy a unit investment cost. The great advances made in powdered coal firing will undoubtedly have their counterpart in new gas maunfacturing methods. These, in turn, can be combined with synthetic processes so that the manufactured gas branch of the gas industry may some day be the primary source of liquid as well as gas fuel,



and chemicals for synthetic industries as well as making gas and coke for home and industry.

Gas Sales

The adjoining chart graphically portrays the statistics of gas sales in the New England manufactured gas industry. The chart has been plotted on a logarithmic scale which makes it possible to judge percentage changes by the visual appearance of the slope of the line. The sharp upward pitch of the commercial and industrial gas sales has been almost constant since depression years. This is so long a period that it clearly is not due to the impetus of war industry. This is no "War Baby" growth, although the 1941-1942 expansion has of course, exclusively been due to increases in commercial and industrial gas sales for war materials. That fact does not change the basic significance which the charts reveal, showing that commerce and industry made use of gas as a source of heat in increasing amounts every year. Moreover, the rate of growth was approximately constant, amounting to 12% per year.

It will be interesting to analyze this growth in detail to show how the experience of commercial and industrial gas applications in peace time proved to be the keystone on which industrial conversion to war materials could be erected. It is no idle boast to say that the gas industry has made a primary contribution to the war effort by being ready with equipment which had the capacity to turn out the tremendous volumes of war material without requiring a period of test and development.

Industrial Market

To review the potential market for industrial gas applications, we must recognize that whatever the details of the peace settlement, the production of shells and guns, of tanks and battleships will quickly be reduced with the cessation of hostilities. Once more the gas industry will have to approach the peace-time markets. Some of the equipment now in such active production will lie dormant until civilian production starts again. Much equipment will continue to operate with scarcely a break and, undoubtedly, some of it will go to the scrap heap. In any event, for a time of unknown duration, the gas industry will suffer loss of industrial load, but it will soon pick up.

It is difficult, however, to predict the direction that the rebirth of industry will take. Certainly much of it will be in fields that have developed from war uses such as the plastics, synthetic rubber, and the many new metals, especially the alloys of aluminum and magnesium.

One thing is certain. After a brief breathing period, there will be a tempo of industrial progress accelerating just as it did when we converted from peace to war.

Since it is the gas industry which has succeeded so well and has rendered such wonderful service for war industry, it is self-evident that these companies will continue to favor the group that stood at the forefront of progress. The same methods which succeeded so well in the past will succeed in the future. The unremitting effort compounded of research, cooperation, and foresight has never failed any business and will not fail the industrial gas business.

Strength of the Industry

The plans laid now, no matter how capably devised, must fail unless the right personnel continues to give leadership to the gas industry in the future. Thus far, we can be proud of our accomplishments and our unity of purpose. Even our competitors acknowledge the strength of gas industry organization, and it must not be allowed to weaken through internal dissension. The gas industry has been wise in maintaining a national organization whose primary strength lies in its insistence on committee action which places the responsibility of promoting the desired programs right on the very shoulders of the operating member companies themselves. There is no top-heavy staff expected to be the guide and seer but only enough to provide effective facilities permitting the smooth functioning of as much or little activity as the gas companies desire through their representatives who, some 1450 strong, make up the American Gas Association directing committee groups. They are the American Gas Association and give assurance that progressive leadership can always be maintained.

Thus we can review the picture; there is a large potential field for future gas sales; its extent can be charted and, we hope, exploited; our competition though strong can be met by modern gas service at lower prices than they can offer; our management is progressive and will continue to be so, judging from the calibre of the men coming up through the industry, and we possess the means for unified and effective action through a strong national organization.

Can you doubt my statement that "THERE'LL ALWAYS BE GAS"?

A. G. A. 1944 War Conference on Industrial and Commercial Gas

JUST as the April issue of the Journal goes to press, the A.G.A. 1944 War Conference on Industrial and Commercial Gas is being held in Rochester, N. Y., March 30-31.

Charles G. Young, manager Springfield Gas Light Co., Springfield, Mass., and Chairman of the section, presided at the forenoon sessions, and Harry K. Wrench, vice pres., Minneapolis Gas Light Co., Minneapolis, Minn., and vice-chairman of the section, presided at the afternoon sessions. Attendance approximately 300.

Many excellent papers were presented at the meeting and we included in this issue the paper "Industrial and Commercial Gas Reconversion Problems," presented by Karl Emmerling, The East Ohio Gas Co., Cleveland, O., who spoke from the point of view of the natural gas division, and J. P. Leinroth, Public Service Electric & Gas Co., Newark, N. J., who spoke from the point of view of the manufactured gas division.

There were luncheon conferences held on both days of the meeting. Herman Russell, president Rochester Gas & Electric Corp., Rochester, N. Y., on Thursday talked on the subject "Problems of Management in Wartime," and at the Friday luncheon, Dr. C. K. Mees, vice-president in charge of research, Eastman Kodak Co., Rochester, N. Y., addressed the guests on the subject "Scientific Research and its Relation to Industry."

"Friendship Hours," from 5.00 to 7.00 P.M., Thursday and Friday, were sponsored by the Association of Gas Appliances and Equipment Manufacturers, E. J. Shermire was Chief Greeter and Edward W. Mears, Asst. Chief Greeter.

More of the important papers presented at the meeting will be included in full or abstract in later issues of the **Journal.**

Aircraft Plant Sets Up Bill Paying Department

By

Lucius S. Flint

A UNIQUE PLAN whereby employees of Avion Inc., a Los Angeles aircraft plant, may pay their gas bills at the plant rather than having to make trips to the main or branch offices of the Southern California Gas Co. is saving an untold number of man hours per month and is resulting in a much improved payment record for the Avion workers.

Some time ago, the aircraft plant made a survey to determine the principal causes of absence, why certain employees took days off at periodic intervals.. The necessity for paying bills, it was found, was one of the main causes for this type of absenteeism.

Theoretically, of course, the problem could be solved by getting all employees to carry bank checking accounts. But in practice that doesn't work out. Some employees can't carry a large enough balance but what checking account charges would run into a good deal of money. Others just aren't interested in a checking account.

So Avion tackled the problem in a sensible way—by setting up a special service department to handle such matters for workers. The company now pays for employees most any type of regular obligation—gas bills, light bills, insurance premiums, automobile installments and so on.

Arrangements were made with the gas company whereby the Avion employee service office can receipt workers for bills just as the utility office would do. The bills are stamped: "Received Payment for Transmission to Vendor."

The Avion office makes up a daily statement to the gas company listing the name, address and account number of each person who pays a bill. Cashier's stubs are inclosed. With this statement goes a company check for the aggregate amount.

Only a minimum amount of time is required by the gas company office for posting from the complete statement. There's really no extra work involved. And, account delinquency among Avion employees has dropped to almost nothing. Those workers who formerly were late in paying bills because they couldn't get into the utility offices during business hours now pay promptly.

Bill Paying Department at Avion, Inc.

Clark Bros. Co. Compressors at Port Neches Butane Plant

In the recent quarterly letter to shareholders issued by Dresser Industries, reference is made to the steam engine driven compressors of Clark Bros. Co., Inc. of Olean, N. Y., which were part of the equipment used in the Neches Butane Products Company plant at Port Neches, Texas.

This plant was described in our issue of January 1944.

There are six compressors Model 6 SCRA of 2000 h.p. each. The plant is expected to produce about one seventh of the total United States production of synthetic rubber.

With 48 fractionating towers it occupies a plant area of 314 acres. The natural gas required is 78 million cubic feet a day.

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How to Estimate the Cost of Steam Leaks

By
W. F. Schaphorst, M.E.
Newark, N. J.

LEAKING steam usually comes through a crack or irregular opening and not through a round hole. Nevertheless in general practice we compare and discuss steam leaks in terms of the round hole. We must "estimate" the diameter of the hole. Thus for example here is a table that will be found helpful in estimating the cost of steam leaks. These costs are based on 100 lb. pressure and steam valued at 50c per 1000 pounds.

COST OF LEAKING STEAM

Size of Opening	Pounds of Steam Wasted per Month	Total Cost of Leak per Month	Total Cost of Leak per Year
½ in.	835,000	$417.50	$5,010.00
⅜ in.	470,000	235.00	2,820.00
¼ in.	210,000	105.00	1,260.00
⅛ in.	52,500	26.25	315.00
1/16 in.	13,200	6.60	79.20
1/32 in.	3,400	1.70	20.40

In the event, though, that you might prefer to do your own figuring, here is a good rule for computing the cost of leaks: "Square the diameter of the opening in inches. Then multiply that result by the absolute steam pressure in lb. per sq. in.; then by the cost of the fuel in dollars per ton; and that by 0.08." The result is the cost of the leak per day in dollars.

The above rule is based on Napier's well known formula which states that, to find the weight of steam flowing through a given orifice into the atmosphere per second, merely multiply the area of the orifice in sq. in. by the absolute steam pressure in lb. per sq. in. and divide by 70.

Besides, the above rule for cost of steam leaks is based on the assumption that one pound of fuel will evaporate 6 pounds of water into steam; consequently corrections can be made for higher or lower evaporation if desired. In the better plants of today more steam is evaporated than 6 pounds. To correct the result, merely multiply the answer by 6 and divide by *your* actual evaporation in lb. of steam per lb. of fuel.

In an engineering university a number of years ago, in connection with a laboratory experiment, a check on Napier's formula was made by going at it backwards. An orifice that had never been measured or even seen by the testers was inserted in a pipe and steam was passed through it. Pressure gages were put in the pipe on both sides of the orifice and a uniform high pressure was maintained on one side of the orific with atmospheric pressure on the other side. The quantity of steam that passed through the orifice was weighed after it was condensed into water.

Applying Napier's formula, the orifice diameter was computed and the result checked by removing the orifice from the pipe and measuring it. The computed figure was within 1/100 of an inch of the actual orifice diameter. Ever since that test this writer has naturally had a very high regard for Napier's formula, and he understands why it is so much used.

Heat for the Glass Industry

A 24-page bulletin in portfolio form shows numerous large gas-fired furnaces designed and installed by Surface Combustion Co., Toledo, Ohio.

Included are continuous annealing lehrs, radiant tube fired and direct fired decorating lehrs, special process furnaces, conveying and bending furnaces, convexing furnaces, batch type lehrs and ovens, miscellaneous furnaces and recuperative tanks.

It is generously illustrated, the text matter being confined to description and function of each type shown.

A copy of this excellent portfolio will be mailed to those requesting it on their company letterhead.

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Razor Blade Pipe Cutters

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Capacity
½" to 2"
Weight 5 lbs.

The REED FOUR WHEEL Cutter operates with a short back and forth motion through only one-third of a circle. Each of the four wheels exerts the same pressure on the pipe, and all 4 therefore cut evenly and completely through the pipe at the same time.

Equipped with Reed special alloy RAZOR BLADE Wheels, which cut with remarkable ease, leave little burr, and have a long life of useful service.

A sample cutter for test and trial may be ordered on memorandum invoice, to be paid for if retained or returned for credit if unsatisfactory. Try it once, and you will use no other.

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Quality Control Organization, Customer Service Department

By

J. A. Weber,

Southern California Gas Company

The importance of servicing customer gas appliances during the war emergency is recognized by all gas companies. In this paper, presented at the P. C. G. A. Technical Section Utilization Conference held in Los Angeles, Calif., Jan. 26th and 27th, Mr. Weber outlines the plan adopted by his company to do this important work. Ed.

THE CUSTOMER SERVICE department is responsible for the maintenance of company equipment on customers' premises and the carrying out of Company policies in respect to the servicing of customers' appliances. To perform these responsibilities, the customer service department has developed dispatch office procedures which control the volume and flow of work assignments, and a supervision program which sees to it that the execution of the work assignments conforms to the company policies as set forth in Standard Practices.

The field operations of this department are carried out by the serviceman group. At the present time, there are employed throughout the Company 275 servicemen and in normal times, this group numbers in excess of 500 servicemen. To maintain supervisory control over a group of this size is an operating problem of considerable importance to the customer service department. It has been the experience of this Department that unless the field procedures of the servicemen are supervised, wide discrepancies will exist between Company policies and actual practices in respect to the extent and quality of the service rendered the customer. As direct supervision is not possible because the serviceman performs his work on the customer's premises, the customer service department relies on indirect supervisory controls to effect uniform and standard practiices.

The supervisory staff is kept informed of the job performances of individual servicemen through procedures designed to measure job performances in terms of quantity and quality. Quantity measurements are supplied through the use of the International business machines, and quality measurements are supplied by a work inspection program. Quantity and quality controls give index ratings on individual servicemen and establish District and Division job performance averages against which individual job performances can be compared.

Quantity and quality data is supplemented by information obtained through a supervisor's personal observation of a serviceman's job performance. Personal observations are made during periodic Ride Studies, a term used to describe the procedure of a District Foreman riding with a serviceman for one or more days and observing firsthand his working methods.

The application of all the information available to the supervisory staff is made by the serviceman's District supervisor, the District foreman, when the serviceman is interviewed on his job performance. Each serviceman is interviewed approximately two times per year and advised of his standing. The supervisor, from information supplied him and that which he obtains himself, is able to discuss with the serviceman all phases of the serviceman's job performance and point out in detail where improvement should be made. The interview procedure is desirable because it advises the serviceman of his standing and is an effective method for improving job performances. The interview is made a matter of record and a complete written report of the progress of the interview is forwarded to the Manager of Customer Service.

Quantity and quality measurements, in addition to their use for supervisory purposes, are helpful in controlling departmental costs, in establishing more efficient work procedures, for defining employee training needs, and in making more effective use of man-hours.

The measurement program is, to a large degree, inter-dependent for validity within itself, in the sense that the validity of one phase of the measurement is determined by other phases. The accuracy of quantity measurements is dependent upon having each completed order the product of thorough and uniform service procedures. The uniformity of service procedures and standards of workmanship are supervised by quality control and other methods. The correlation of the various activities of the measurement program will be made more apparent by a discussion of each activity. However, a discussion of quantity control will be presented at a later date.

Quality Control

The work inspection program of the Customer Service Department is carried on by the quality control group which is composed, at the present time, of nine service inspectors who gather the field data, two stenographers and one Clerk "B" who do the summarizing, and a staff assistant who directs the operations. This group functions as a staff activity under the direction of the Manager of Customer Service.

Work inspections for several years prior to August, 1943, were conducted from District stations by Sub-Foremen who answered directly to the District Foremen. With the organization of quality control, the Sub-Foremen were reclassified to the service inspector rating and their work assignments were limited strictly to work inspections. The objectives in making a staff activity out of what was previously a line supervision assignment were to standardize on inspection procedures, to develop quality measurements which would be suitable for District and Division comparisons, and to establish more uniform service procedures and policies. The present organization of the work inspection program under quality control has been effective in meeting all of these objectives.

The purpose of the work inspection program is to see that the field

operations of the servicemen conform to Company policies and that standard servicing procedures are followed in all Districts and Divisions. Work inspections are essential because direct supervision of the servicemen is not possible. A serviceman receives his daily work assignment at 8:30 A.M. and except for the brief interval which he spends in the office, he has no direct contact with any supervisor during the working day. It is also important that standard servicing procedures should be enforced throughout the company in order that quantity measurements will be reliable.

Work inspections are made by service inspectors on a small percentage of the orders completed by the servicemen. As a daily work assignment, inspectors are given copies of 20 orders which have been selected and prepared for them by the dispatch office from the completed work of several servicemen. In copying the original orders, the serviceman's name is omitted so that personalities will not affect inspection results. No more than six orders are taken from the work of any one serviceman for any one day. In making his inspection, the inspector calls at the customer's home and goes through the same service routine as was followed by the serviceman.

The general objectives of each field inspection are to answer three main questions:

(1) Was the customer's request satisfied?

(2) Was the work done by the serviceman done correctly?

(3) Was all the work required by Company policy performed by the serviceman?

These objectives are reported on with each inspection through the use of a "Check List." The check list represents a careful analysis by elements of all of the operations performed by the serviceman. An inspector is required to answer each element separately and where a defect or error is encountered, he must explain it in detail by giving the name of the appliance, the nature of the defect, and state the procedure which should have been followed. The use of the check list encourages uniform and accurate inspection technique.

The inspector records his findings in a looseleaf binder and at the close of the day, sends his work sheets to the office for tabulation. Other than the actual recording of the field data, all clerical work is performed by the office staff. When a representative number of orders for each serviceman in a Division have been inspected, the results are summarized into a Quality Control Report by serviceman, District and Division for that period. A period may extend for two, three, or four months, depending upon the number of completed inspections which have been made.

The field inspection data is used to develop two evaluations or indexes in respect to the quality of the job performance of each serviceman. The primary evaluation is called the "Quality Index" and includes those elements which are considered of primary importance for quality workmanship. The secondary evaluation is called the "Completeness Index" and is made up of those elements which, if omitted by the serviceman, do not affect too seriously the over-all value of the job.

The Quality Index is a mathematical expression of the comparison of important inspections to important defects. For example, an "inspection" is made for pressure on each order where there is a high pressure service. The Quality Index in respect to pressure is arrived at by dividing the number of inspections into the number of defects.

Since the Quality Index represents all of the important elements of the servicemen's work, it forms the principal basis for job performance evaluation.

The Completeness Index is a numerical expression of the comparison of all inspections, both major and minor, to the number of major and minor defects. Elements of the job which are too minor to seriously affect the over-all value, but which are nevertheless essential and required work, are tabulated in the Completeness Index.

The Completeness Index operates as a modifying factor upon the value given to the Unit Hour or Production Index. The serviceman who rushes through his work and completes a great many orders would receive a high Unit Hour Index, but this Unit Hour Index would not represent a true evaluation of the quantity of the work performed unless each job was done thoroughly. The Completeness Index gives some indication as to how thorough each serviceman does his work and is in this sense an interpretive factor in considering the Unit Hour Index.

The basic unit of the Quality Control procedure is the "inspection" as distinguished from an order. It has been necessary for accurate comparative purposes to make this distinction because of the wide differences in the amount of work required on individual orders. There is little similarity in the amount and type of work required on a C.S.O. in Beverly Hills as compared to a C.S.O. in Boyle Heights. The "inspection" makes a discrimination between complex and obsolete appliances. Multiple inspections are given for complex appliances as can be seen from this example:

I. Range
(Old & Outmoded)
(New and C. C.)

J. Top Burner ignition, top pilot

K. Oven bypass, standby and constant pilot

L. A.S.O.

M. Calibrate

Each of the above elements represents an "inspection." It can be seen that an obsolete range which has no pilot would be given a single inspection. On the other hand, a clock control range which has both automatic top burner and oven ignition and an automatic shut-off would receive a minimum of four inspections and a possible fifth inspection if the serviceman calibrated the oven.

The application of the information supplied by the Quality Control reports is made by the district foremen, who are the direct supervisors of the servicemen. Each serviceman is periodically interviewed and advised of his job performance rating. The records produced by Quality Control are the main basis for this evaluation. In discussing the serviceman's record with him, the district foreman stresses the impersonal character of the Quality Control reports and the fact that the serviceman's work is not rated on opinion, but upon the serviceman's relative standing in comparison to others doing the same work in the same area for the same period.

To fully acquaint each serviceman with the inspection procedure and to point out in detail the exact requirements for the job, each serviceman has been given copies of the "Check List" and "Notes on the Use of the Check List." Further efforts to stimulate interest in quality workmanship have been made by posting on district bulletin boards the composite Division Quality Control Report which shows the relative standing of each District. The individual records of each serviceman are not disclosed except to the men involved because of their confidential character.

The reliability of a work inspection program depends upon the competency of the individuals who make the inspections. While all members

of the service inspector group have had long experience as servicemen and are familiar with servicing problems, there did exist at the time the Quality Control program was begun, differences of opinion in respect to many problems. To eliminate these differences and to develop uniform inspection procedures, the inspectors are furnished a comprehensive list of instructions which regulate their conduct, practices, and recording of data. These instructions represent the composite thought of the Inspectors as to what represents the most desirable methods of inspection. Further efforts toward improving inspection technique are being made progressively.

To maintain reliable work performance indexes, it is necessary that a representative number of orders per serviceman should be inspected periodically. The number of orders required for monthly quotas will largely determine the number of Inspectors required. From all previous experience in doing work inspections, it appears desirable to inspect a minimum of six orders per serviceman per month. The average inspector completes nine inspections per day and is available for Quality Control approximately 20 days per month. Allowances must be made for the supplementary assignments given to inspectors which include industrial curtailment, vacations, sick relief for District Foremen, and lost time because of inclement weather, group meetings, and assignment for route work. The following statistics indicate Quality Control requirements:

Orders inspected per serviceman per month	6
Number of servicemen (Central, Northern, Southern)	193
Total number inspections per month	1158
Average completed inspections per day per inspector	9
Number of Inspectors required for present group of servicemen	6

Six orders per month per serviceman represents a percentage of 1.5 of total completed orders. This appears to be a desirable minimum percentage of completed work which should be inspected for sampling purposes. This figure is a large enough sample for obtaining reliable measurements according to recognized inspection standards. Greater reliability is obtained by combining the results of several periods and this practice will be followed by this department through long term records. Under the work inspection program followed prior to Quality Control, 0.9% of total orders were inspected.

In addition to work inspections in the metropolitan area, Inspectors will make occasional investigations in outside Divisions. The pattern being followed at present in Eastern Division should be applicable to Kern and San Joaquin Divisions. In Eastern Division, two sub-foremen do work inspections in accordance with Quality Control procedures, but not on a full-time basis. At the close of the designated period, inspectors are sent from here to assist them in fulfilling the Division quotas.

When Quality Control was established the agency for carrying on the work inspection program, important changes were made in the supervisory staff of this department. When work inspections were conducted by sub-foremen operating out of District stations, there were 14 to 17 sub-foremen in the metropolitan divisions. The principal duty with which a sub-foreman was charged was to make work inspections. From July 1942 to June 1943, during which period work inspections were performed exclusively by sub-foremen, there were inspected 7910 C.S.O. and Turn-On Orders. This figure represents a percentage of 0.9 orders inspected as compared to the total number of orders completed in the metropolitan area.

While a comparison of the number of orders inspected by Quality Control and the number of orders inspected under the sub-foremen plan is not entirely accurate because the sub-foremen had duties other than making work inspections, there is considerable significance in the greater amount of coverage under the Quality Control plan. With a staff of 8 or 9 inspectors, there was inspected during the period of August 9 to November 30, 1943, approximately 6500 orders.

This program has been helpful in establishing uniform operating procedure along several lines. The Quality Control program has met substantially all of the requirements which this department set up as requisite of a satisfactory work inspection program. These requisites in brief were as follows:

(1) That the procedure should give greater weight to important factors and lesser weight to minor factors.

(2) That in offering criticism of a serviceman's work, such criticism should be constructive in that the errors charged to a serviceman should be pointed out in clear and accurate terms.

(3) That the procedures followed should be fair and impartial and should impress upon the employee that every effort had been made to give his work an honest and accurate evaluation.

(4) That the employee should understand that if he performs his job in an intelligent and competent manner, he still receives full credit for his efforts.

(5) That evaluations with respect to quality ratings should be made by competent observers.

(6) That the employee should have as complete an understanding as is possible of the elements and operation of the inspection procedure.

The Quality Control program shows a high degree of flexibility which is very desirable. Changes in procedures can be made very readily, Inspectors can be trained along particular lines with little difficulty, and assignments to other work can be made of the entire group for periods of short or long duration without affecting the validity of the work inspection program. Employees who go through the service inspector training acquire an objective point of view which should assist them to a marked degree in handling higher assignments. In this sense, the Quality Control operates as a training ground for its own personnel.

Clerical Quality Control

The function of Clerical Quality Control is to maintain standards of clerical accuracy with respect to the information entered by the serviceman on completed orders. Completed orders are inspected by the customer service dispatch office for clerical accuracy in connection with the I.B.M. tabulating procedure. Orders which are inaccurately filled out are returned to the serviceman for correction and a record is kept as to the number and type of errors by servicemen. It is important that the manner in which an order is written should be correct because other departments rely on the orders for information of various types. The sales department makes use of the "Load Survey" which indicates the type and condition of the customer's appliances. The customers department relies on Turn-On and Close information for bills and rate data. The General Agent's department frequently depends upon the serviceman's mechanical report to assist them in fixing customer and Company liability for property damage accidents. The customer service department makes a wide variety of uses of the information on completed orders. With the periodic Quality Control Reports, there is included an index rating by servicemen which is based on the number of errors per 100 orders completed.

The importance of correct order procedures and the servicemen's record of order errors are discussed with the serviceman at the time of his periodic interview.

News of the Gas Industry

A.G.A. Conferences

Distribution Conference A.G.A.

The Twenty-First Annual Distribution Conference of the Technical Section of the American Gas Association will be held in Cleveland, Ohio, April 18 and 19, 1944, at the Hotel Statler.

The Chairman of the Distribution Committee—Mr. A. C. Cherry of The Cincinnati Gas & Electric Co., Cincinnati, Ohio—reports the Program Committee has prepared interesting and stimulating sessions on current and post war matters.

The Luncheon Conferences will be held on both days and are under the direction of Mr. T. H. Kendall of the Equitable Gas Co., Pittsburgh, Pa., Vice Chairman of the Distribution Committee.

Mr. J. French Robinson, President of The East Ohio Gas Co., Cleveland, Ohio—Chairman of the Natural Gas Department of the Association, will welcome the delegates to Cleveland, and Major Alexander Forward, Managing Director of the Association, in New York, will greet the members.

An innovation will be the merging of the two Tuesday Afternoon Luncheon Conferences, April 18, at about 3:45 P.M., to participate in a discussion of a topic of vital interest to all operating men of the industry.

For Monday, April 17, and Thursday, April 20, the Association's Testing Laboratories have extended a cordial invitation for delegates to inspect the facilities devoted to research and testing. Details of conducted tours to be arranged for the day immediately preceding and succeeding the Conference will be included in the printed program. Every distribution engineer will find it well worth while to take advantage of this unusual opportunity to inspect at first hand projects that have an important bearing on many of the activities that are the daily responsibility of engineers and superintendents of distribution.

Joint Production and Chemical Committee Conference

Mr. F. J. Pfluke, Rochester Gas & Electric Corp., Rochester, N. Y., Chairman of the Gas Production Committee, and Mr. V. J. Altieri, Eastern Gas and Fuel Associates, Everett, Mass., Chairman of the Chemical Committee, both of the Technical Section, announce the program for the Joint Production and Chemical Committee Conference, to be held at the Hotel Pennsylvania in New York, N. Y., June 6 and 7, is well under way. Practical papers dealing with present and some post war problems along with four timely Round Table Luncheon Conferences have been arranged by Mr. A. C. Sedlachek of the Philadelphia Coke Co., Philadelphia, Pa., and Mr. Louis Shnidman of the Rochester Gas & Electric Corp., Rochester, N. Y.

The Association will be represented by President E. R. Acker and Major Alexander Forward, Managing Director of the Association, who will address the delegates at the first morning session. The Chairman of the Manufactured Gas Department, Vice President George S. Hawley of the Bridgeport Gas Light Co., Bridgeport, Conn., will open the second session.

Conference on the Operation of Public Utility Motor Vehicles

The Chairman of the Committee on the Operation of Public Utility Motor Vehicles of the Association, Mr. E. W. Jahn of the Consolidated Gas Electric Light & Power Company of Baltimore, Md., announces the Committee has timed its Annual Conference to meet the day preceding the Philadelphia T and M meeting of the Society of Automotive Engineers, on June 27, 1944, at the Bellevue-Stratford Hotel, Philadelphia, Pa. Presentations of interest and help to company fleet operators are being arranged.

Oklahoma Utilities Association

Taking the place of their Annual Convention, the Oklahoma Utilities Association held a one-day conference at the Biltmore Hotel, Oklahoma City, on March 14.

The general morning session was presided over by E. C. Joullian, president of the Association, and included addresses by J. C. Happeny, president of the Oklahoma Power and Water Co., Oscar Monrad, manager of the Industrial Division, Oklahoma City Chamber of Commerce, and Elmer T. Peterson of the Oklahoma Publishing Co.

The afternoon sessions were held as two separate meetings—Electric and Gas.

The program of the gas section, presided over by A. F. Potter, vice president of the Association and manager of The Gas Service Company of Bartlesville, was as follows:

Post-War Planning To Maintain Gas Load, Cy Young, Research Engineer, The Gas Service Company, Kansas City.

There Ought To Be A Law, Carl H. Dean, Heating Engineer, Okla Natural Gas Company, Tulsa.

All Weather Air Conditioning, John A. Gilbreath, Assistant Manager, Air Condition Division, Servel, Inc.

1944 Southwestern Gas Measurement Short Course, W. H. Carson, Dean, College of Engineering, University of Oklahoma, Norman.

CONVENTION CALENDAR

April

18-19 *American Gas Association Distribution Conference.* Hotel Statler, Cleveland, Ohio.
19-20 *Missouri Assn. of Public Utilities.* Annual Business Meeting, St. Louis, Jefferson Hotel.
26-27 *Gas and Electric Industry Accounting Conference,* Hotel Cleveland, Cleveland, Ohio.

May

2 *Pennsylvania Gas Association* Annual Meeting. Philadelphia, Pa.
11-13 *American Gas Association, Natural Gas Dept.* French Lick Springs Hotel, French Lick, Indiana.
15-16 *Indiana Gas Association Annual Convention.* Hotel Lincoln, Indianapolis.

June

5-7 *Advertising Federation of America,* Annual Meeting Hotel Sherman, Chicago.
6-7 *American Gas Association Joint Production and Chemical Committee Conference.* Hotel Pennsylvania, New York, N. Y.
6-8 *Public Utilities Advertising Association,* Annual Meeting Palmer House, Chicago.
6-8 *Southwestern Gas Measurement Short Course,* University of Oklahoma, Norman, Okla.
8 *Canadian Gas Association's 37th Annual Convention,* Royal Connaught Hotel, Hamilton, Ontario.
27 *Conference on the Operation of Public Utility Motor Vehicles,* Bellevue-Stratford Hotel, Philadelphia, Pa.

During the short business session Mr. L. A. Farmer, President of the Northern Oklahoma Gas Company, Ponca City, Oklahoma, was elected Chairman of the Gas Division of the Association for the year 1944.

Canadian Gas Association Annual Convention

The Canadian Gas Association's 37th Annual Convention will be held at the Royal Connaught Hotel, Hamilton, Ontario on June 8th.

President E. M. Borger Returns to Pittsburgh

Capt. Edward M. Borger, American Field Service, has returned to Pittsburgh and the presidency of The Peoples Natural Gas Company after a year of front line duty in Egypt, Tunisia and Italy.

He was greeted on his return by T. A. Robinson, assistant personnel director, the H. J. Heinz Company who is in charge of enlistments for the American Field Service in Pittsburgh.

Mr. Borger left the United States Nov. 23, 1942 in charge of a detail of 100 American ambulance men and was in service for 16 months, going first to Syria and then to join the British Eighth Army in Lybia and Tunisia. He was engaged in forward ambulance work with the New Zealanders when they flanked the Mareth line and broke the German front. He was in Italy when relieved.

The American Field Service is financed and equipped entirely by American contributions. Ambulances are provided and the members are all volunteers, serving without pay except a $20-a-month living allowance.

The service has ambulance companies with both the Eighth and Fifth Armies in Italy and in India.

The service had its beginnings in the summer of 1914, when a number of young Americans, living in France, hastily improvised ambulances and helped bring the wounded from the first Battle of the Marne. It was given its present name in April 1915, and in the next three years passed through its ranks more than 2,500 American volunteers, serving in 31 ambulance sections attached to the French Army. In the years that followed many of these volunteers became famous in business and other professions.

The American Field Service maintained its existence after the World War, using its funds to create American fellowships in French Universities. At the outbreak of the present war the Service began ambulance work in France and continued it in North Africa, Italy and India.

Northern Berkshire Gas Co. in Service 80 Years

Northern Berkshire Gas Company observed its 80th birthday on February 29. The company was incorporated as the North Adams Gas Light Company with a capitalization of $52,000 on February 29, 1864.

Erection of a gas plant was begun shortly after the incorporation on the land now occupied by the present properties and when completed consisted of one small holder and two benches of three iron retorts capable of producing about 30,000 cubic feet per day. The distribution system consisted of a 6-inch main and two 4-inch mains.

Principal users were six manufacturing plants, there being very little consumption in private homes at that time.

The price of gas in 1864 was set at $5 per thousand cubic feet and was gradually reduced until in 1879 it sold for $3 per thousand feet.

In 1879 the company sent out 5,000,000 cubic feet, in 1884, 10,000,000 cubic feet and in 1897, 36,000,000 cubic feet. The price was gradually reduced from $3 per thousand feet in 1879 to $1.40 per thousand feet in 1895.

During this period in the life of the company no charge was made to customers for installing gas services to their cellars while gas stoves and other merchadise were sold at cost.

The present gas system is composed of a modern plant equipped with one 9-foot gas-making set and one 8-foot set. There are three storage holders, two in North Adams and one in Adams, with a total capacity of 900,000 cubic feet. The distribution system has 50 miles of street mains ranging in size from two to fourteen inches. Service is supplied to 8700 gas customers who use 4500 ranges, 1285 water heaters and 631 Electrolux refrigerators. In 1943, total sales were 200,000,000 cubic feet.

Abstracted from "Contact"—Company organ.

T. A. Robinson, assistant personnel director of H. J. Heinz Company welcomes president Edward M. Borger back to Pittsburgh.

1944-45 Officers and Directors of The New England Gas Association

Elected at 18th Annual Business Conference at Hotel Statler, Boston, on March 23.

Officers

President—Hall M. Henry, director of gas operations, Negea Service Corp., Cambridge; *1st Vice President*—D. S. Reynolds, vice president and chief engineer, Boston Consolidated Gas Company; *2nd Vice President*—L. E. Knowlton, engineer, Providence Gas Co.; *Treasurer*—E. H. Eacker, vice president, Boston Consolidated Gas Co.; *Clerk*—Clark Belden, executive secretary, The New England Gas Assn., Boston.

The following men, as next year's Division chairmen, are Association directors, having just been elected by the members of their respective Divisions:

5 Division Chairmen—Accounting—J. C. Stewart, Blackstone Valley Gas & Electric Co., Paw.; *Industrial*—A. J. Huston, industrial sales engineer, Worcester Gas Light Co.; *Manufacturers*—G. P. Velte, regional representative, American Stove Co., Boston; *Operating*—F. H. Faulstich, assistant to the manager, Springfield Gas Light Co.; *Sales*—H. V. Potter, sales manager, Fall River Gas Works Co.

Home Service Group

The Home Service Group elected the following officers for the coming year:

Chairman—Hazel Cheever, home service director, Malden & Melrose Gas Light Co.

Vice Chairman—Florence Mooney, home service director, Lynn Gas & Electric Co.

Secretary—Susan Mack, home service director, Boston Consolidated Gas Co.

Natural Gas Replaces Gasoline as Motor Fuel

Southern Union Gas Company now has one of their Ford pick-up trucks at Santa Fe equipped to burn Natural Gas. They find that it takes eight cubic feet of natural gas per mile, driving the pick-up around town, and six cubic feet per mile driving on the highway at a speed of thirty-five miles per hour.

The equipment used in making this installation consists of a forty-five-gallon Ruud Water Heater tank, placed crosswise in the bed of the pick-up, just back of the cab. The tank is eighteen inches in diameter and holds one hundred and five

Natural Gas storage tank and regulators mounted on Company's Ford pick-up, Santa Fe, New Mexico.

cubic feet of gas at two hundred pounds pressure. There are two regulators mounted on the tank; one cuts from two hundred pounds to fifty pounds; the other cuts from fifty pounds to four ounces. A piece of aluminum tubing, such as is used to connect up ranges, is used to convey the gas to the carburetor. The gas carburetor is made of a short piece of two and one-half-inch pipe reamed out to fit on the gasoline carburetor where the air-cleaner was. A short piece of three-eighths-inch pipe is screwed through the two and one-half-inch pipe with a draft-actuated valve in the center of the two and one-half-inch pipe. This valve feeds the gas in proportion to the air, which is drawn into the motor, and also acts as an automatic shut-off when the motor stops.

The gasoline carburetor is left on the car. The only change necessary is to install a small valve in the gasoline line, between the fuel pump and the carburetor. This valve is closed and the carburetor allowed to run dry of gasoline before the natural gas is turned on. To switch back to gasoline for fuel, this action is reversed. It only requires thirty seconds to change from one fuel to the other.

The motor runs just as well on natural gas as it does on gasoline. The use of natural gas as a fuel will not cause carbon to form, nor will it dilute the oil in the crank case as does the use of gasoline.

At present, they are filling the tank at their Santa Fe Border Station, where they have around two hundred pounds pressure. If it ever becomes necessary to convert all their cars to the use of natural gas, they will install a storage tank near the warehouse and compress the gas up to around five hundred pounds, which would allow them to fill the tanks on the cars with natural gas at approximately four hundred pounds pressure. This would give a sufficient amount of natural gas to run the average pick-up all day.—*S. D. Colvin, in Southern Union News.*

Institute of Gas Technology

The Institute of Gas Technology at Illinois Institute of Technology will devote its activities exclusively to research for the duration, it has been announced by John I. Yellott, director.

The educational program of the Gas Institute has been suspended, for recent selective service orders have ruled that graduate students in engineering and science are no longer eligible for deferments.

Graduate students are the only group who have studied at the Gas Institute. One of the purposes of the gas industry in establishing the Institute was to provide graduate training in gas technology.

Twenty graduate fellows were studying at the Gas Institute when classes ended in February with the closing of the winter term. They had been specially selected for this study through national search and competition.

The Gas Institute, established in June, 1941, opened its educational program three months later—in September. The educational work was but one of four purposes for which the Institute was established.

Others include: (1) the prosecution of fundamental research in gas technology; (2) the collection and dissemination of scientific information; and (3) the conduct of applied research investigations on specific industrial problems.

Two of the 20 graduate fellows at the Gas Institute will join the full-time staff of the Institute, where they will work on war research projects. The other 18 will go into the armed services or into war industry.

A Practical Manual for Foremen

The ability to use manpower, machines and "planpower" effectively under the present pressure of war needs is the outstanding requirements of a good supervisor today. This booklet gives a foreman specific methods and concrete suggestions for utilizing not only the machines, manpower, and materials he has at hand, but also how to tap the idea resources of his workers and get their enthusiastic support to his efforts to increase production. It not only shows him how to plan his work, but also how to study his present job methods and develop better methods for doing each job. Some of the chapter headings include:

Put the Right Man on the Job; Give Instructions That Get Results; Make Every Move Count; Provide Effective Incentives; Develop Enthusiastic Team Work; Working According to Time Standards; Laying Out the Work; Keep Materials and Supplies in Readiness; Make Effective Use of Work Space; Set a Result-Goal; Check Condition of Equipment; Control Machine Stop Time; Make Maximum Use of Equipment; Planning Man and Machine Power.

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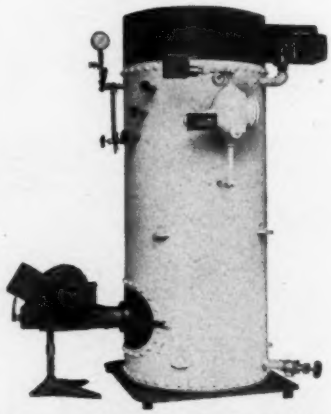
3 HP to 35 HP.



Burns natural gas or regular furnace oils with equal efficiency using same burner.

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THE STACEY MANUFACTURING CO.
Engineers Fabricators Constructors
• Gas Holders • Gas Plant Equipment • Steel Plate Construction •
GAS HOLDER INSPECTION SERVICE
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93
STACEY SINCE 1851
Years

Pipe and Tube Bending Handbook

The Copper & Brass Research Association has issued a complete treatise showing methods and devices for bending pipes and tubes of copper and its alloys. It contains 80 pages of text with 113 figures and illustrations including 35 full pages of unit weights of tubes of different alloys with varying diameters, wall thicknesses and shape, as well as pertinent information on the chemical and physical properties of such pipe material.

The text covers subjects such as hot and cold bending, minimum radii, temper, the use of mandrels of various types and many other essential factors. Bending with the use of filler materials such as sand, rosin, salt and low melting temperature alloys is described and illustrated. Step by step procedures for both smooth and wrinkle bending of larger diameter pipe show methods and equipment in considerable detail.

So far as known it is the most complete treatise dealing exclusively with bending tube and pipe that has ever been published. It is available to those who write to Copper & Brass Research Association, 420 Lexington Avenue, New York 17, N. Y.

Frederick E. Moskovics Joins A. O. Smith Corporation

In accepting the appointment of Industrial Consultant, Frederick E. Moskovics brings to the A. O. Smith Corporation of Milwaukee, Wisconsin, a background of diversified, practical experience in organizing the production of vital war materiel.

Frederick E. Moskovics

For the past three years Mr. Moskovics was technical advisor to the Supervisor, Army Air Forces, where his cooperation with industry was one of the major factors in this country's phenomenal plane production. His industrial knowledge, based on more than forty years of technical experience in industry, was valuable in solving many of the bottlenecks which hampered progress in the first few months after Pearl Harbor.

Mr. Moskovics' association with American industry, in which he was to achieve such distinguished success, dates back to the early part of this century. In 1907 he designed one of this country's earliest motor cars, the Allen-Kingston. He was vice-president of the Nordyke - Marmon Company for fifteen years. The following five years he served as president of the Stutz Motor Car Company.

Early in 1941 he went into government service where his wide technical training was used to facilitate war production in the Materiel Command of the Army Air Forces.

Mr. Moskovics resigned from government service on March 1, 1944. He is convinced that the road to inevitable victory is still a long one. However, American industry has become so well adapted to war production generally that he feels he can do greater service to the war effort by devoting his talents to one major organization.

In joining the A. O. Smith Corporation, producers of bombs, air flasks for torpedoes, landing gear for large bombers and propeller blades for airplanes, Mr. Moskovics is continuing to utilize his knowledge and experience in important war production.

OPA Stove and Water Heater Panels

The Office of Price Administration has recently appointed Technical Advisory Panels for the stove industry and for the automatic water heater industry to work out technical problems involved in stove rationing, and recommendations concerning pricing, delivery terms and trade discounts on automatic water heaters. Mr. S. E. Little of the American Stove Co., is a member of the Stove Industry Technical Advisory Panel and among those on the Water Heater Industry Advisory Committee are Jim Donnelly, Sales Manager, A. O. Smith Corporation; J. Scott Fowler, President, The Lovekin Water Heater Company; H. J. Rust, Sales Manager, Handley-Brown Heater Company; R. E. James, General Manager of Sales, Rheem Manufacturing Co.; Jack Lavelle, Sales Manager, John Wood Mfg. Co.; Harold Masey, General Sales Manager, American Radiator & Standard Sanitary Corp.; L. R. Mendelson, President, The Hotstream Heater Co.; A. H. Sutton, President, Mission Water Heater Company.

Dresser Reports on Fiscal Year's First Quarter

Operations of Dresser Manufacturing Company of Bradford, Pa. and subsidiaries for the three months ended January 31, 1944, the first quarter of the fiscal year, resulted in combined net sales of $11,232,-145.

"Like many producers of war materiel," said H. N. Mallon, president, "the companies in the Dresser Industries group have had some large war orders canceled, but new war orders have been obtained which show promise of replacing the lost business. However, it may be expected that fluctuations in our sales volume will continue to occur because of constantly changing military needs."

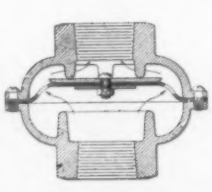
"Grand Slam" In Government Awards to Cooper-Bessemer

Unusual recognition for outstanding war production was noted recently in the announcement that The Cooper-Bessemer Corporation, with plants at Mount Vernon, Ohio and in Grove City, Pa., has been awarded the Army-Navy "E."

This new honor will complete a "grand slam" in government awards which began August 29th, 1942, with presentation of the United States Treasury Department's Minute-Man flag for 100 per cent participation of its employees in War Bond subscription, followed by award of the Maritime Commission's "M" burgee on December 18th, 1942, for outstanding production of Diesel engines and major engine parts for which they have subsequently received two gold stars for continued achievement on August 3rd, 1943, and January 25th, 1944.

This 111-year old concern, which now receives the Army-Navy "E" award, has been one of the most important factors in the outstanding development and manufacture of Diesel power for propulsion and auxiliary service in many types of cargo, combat and salvage vessels. The company is also recognized as a major producer of Diesel and gas operated compressors for the petroleum and synthesis industries. In addition to their extensive output of engines, Cooper-Bessemer is the largest manufacturer of steam cylinder castings for Liberty ships and is turning out an increasing volume of machine tool castings here and at their Grove City, Pa., plant.

Prompt Deliveries From Our Own Factory



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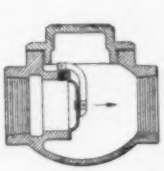

NORWALK VALVE COMPANY

85 Spring St. South Norwalk, Conn.

Servel Extends Radio Broadcast "Fashions in Rations"

Geo. S. Jones, Jr., vice-president in charge of sales of Servel Inc., Evansville, Ind., has announced that a contract extension in the radio program "Fashions in Rations" had been filed with the Columbia Broadcasting System sending the popular half hour Saturday morning show into its second year of broadcasting.

Louis Ruthenberg, president of Servel Inc., and Miss Billie Burke pose together at one of the Saturday morning broadcasts of "Fashions in Rations". Servel Inc., sponsor of the program, has announced that starting April 1 it will be heard over all 134 stations of the CBS chain — an increase of 56 stations.

In addition to the extension of the radio program which stars Miss Billie Burke for an additional 13 weeks, Mr. Jones also announced that starting April 1 the program will add 56 new stations and use the entire Columbia Broadcasting System network of 134 stations.

"After a year of broadcasting activity it is quite apparent that 'Fashions in Rations'," Mr. Jones said, "is accomplishing its immediate objective for Servel and the gas industry as a whole which has cooperated in the sponsorship of this show.

"We can truthfully say that our radio program has furthered the wartime objective of Servel and the gas industry by:

1. Helping to win the war and gain recognition in Washington for the wartime contributions of Servel and the gas industry
2. Building goodwill for Servel and the gas industry
3. Building postwar sales for Servel and postwar load for the gas industry, and
4. Demonstrating the leadership of Servel and the gas industry in wartime nutrition.

Because 'Fashions in Rations' is accomplishing these purposes, we will continue its weekly presentations and extend it to the balance of the Columbia Broadcasting System network."

To give the gas industry a more comprehensive picture of the value of "Fashions in Rations," Servel Inc. will publish shortly "A Report to Gas Companies on 'Fashions in Rations'," a booklet which gives a complete picture of the radio activity during the past year.

This report is as glowing a success story as could be told on any type of promotion, for in the 11 months that it has been on the air, this new booklet reveals, "Fashions in Rations" has attained a 47 per cent higher rating than any Saturday morning half hour program has ever achieved in a similar period. During this time the radio program, jointly sponsored by Servel and the gas industry, has attained a C.A.B. rating of 7.8 per cent which indicates that the program is currently listened to by about 2,150,000 famiiles or more than 4,000,000 people weekly.

Since the average turnover for a daytime half hour program is 2.7 this means that 6,000,000 different families or more than 12,000,000 different people hear the program one or more times in a month. An additional point made in this report is the success that "Fashions in Rations" has achieved in reaching women. According to a recent BBDO Onondaga Panel Survey, the program attracted more women per hundred sets tuned in than any other Saturday morning program.

On cost per listeners, the new report states that of the 21 half hour daytime programs, only four deliver listeners at a lower cost per thousand than "Fashions in Rations." These four programs have been on the air from two to thirteen years. Further, "Fashions in Rations" is reaching its audience at a lower cost per thousand than any of the leading institutional programs, daytime and evening, on the air.

This report to the gas companies on "Fashions in Rations" will be distributed immediately to gas company executives, sales managers, and home service directors all over the country.

Coal Facts

A statistical outline on the dominant position of coal in the Nation's industry with special reference to bituminous coal is featured in a series of charts and diagrams presented in bound form (8½ x 11) prepared by the Bituminous Coal Institute, 60 East 42nd Street, New York City, 17.

Under its title "Coal Facts," will be found a splendid statistical presentation expressed in percentages of sources of energy, war plastics, fuel reserves of countries at war, bituminous coal output, relative value of coal mined compared with metal production and a score of other analytical charts pertaining to the industry.

Included also is a brief description of coal mining operations and miner's working conditions.

A. J. Anderson Succeeds Thomas at Walla Walla

Howard M. Thomas, former president and general manager of Northwest Cities Gas Company, Walla Walla, Washington, has retired and gone to his farm in Oregon.

He is succeeded by A. J. Anderson as manager at Walla Walla, formerly district manager at Astoria, Oregon and more recently assistant secretary and assistant treasurer at Walla Walla.

Meter Company Elects New Officials

At the annual meeting of the Pittsburgh Equitable Meter Company, Colonel Willard F. Rockwell was elected Chairman of the Board. Colonel Rockwell, who has been president of the company since 1926, will continue as active head of the firm and serve in the dual capacity of President and Board Chairman.

Subsequently announced were the elections of Edgar W. Meyers as Director and William S. Potter as Vice President.

Mr. Meyers, Treasurer for the past 18 years, will continue to serve in that position.

Mr. Potter formerly was Assistant Works Manager. He has been connected with the Pittsburgh concern for the past 14 years in various engineering and production capacities.

Left: Edgar W. Meyers, Director, who continues as Treasurer. Right: William S. Potter, Vice President, formerly Assistant Works Manager.

Servel Appoints Mrs. Hart as Planning Consultant

The appointment of Mrs. Virginia Hart as Kitchen Planning Consultant to the Advertising and Sales Promotion Department of Servel, Inc., Evansville, Indiana was made this week by R. J. Canniff, Manager of Servel's Advertising and Sales Promotion Department.

Mrs. Hart, one of the nation's foremost kitchen designers, began her planning activities while connected with the New York offices of the Kitchen Maid Planning Corporation in 1930. Her original connection with the gas industry came in 1933 when she edited "Modern Kitchens, A Handbook of Design and Construction" for the American Gas Association. In that same year Mrs. Hart designed and organized the kitchen headquarters for the Philadelphia Gas Works. From 1934 to 1936 she was connected with the Consolidated Gas Company of New York while organizing their kitchen planning service.

Mrs. Virginia Hart

From 1937 to 1942 she was the associate editor of "House and Garden," in charge of home equipment.

One of Mrs. Hart's first assignments for Servel was the preparation of an article "Kitchen Planning for the Gas Industry" which appeared in the March issue of Servel News.

"The success of kitchen planning will depend, first of all, on the 'kitchen packages' themselves, what is in them, and how they work," Mrs. Hart said in discussing the post-war future of kitchen design.

"Not all kitchen 'packages' will sell no matter how prettily they are tied up. Given salable 'packages' a company's success will stem from how well it can adapt them to individual kitchen plans. For this the planners must know more than a list of color schemes, decorating tricks, and how to cooperate with dealers.

"The alert kitchen planner will have a share in the interest and excitement of the post-war building period, for the problems will be geared directly to the times. New material with fabulous possibilities will suggest radical new answers to old problems. The realm of possibility for kitchens will be wider than ever and good planners will make the most of the day."

Mr. Canniff also announced that Mrs. Hart in her capacity as Kitchen Planning Consultant will undertake other research projects for Servel, Inc.

Interstate Oil Compact Commission

The Spring Quarterly Meeting of the Interstate Oil Compact Commission was held in the Roosevelt Hotel, New Orleans on April 3rd and 4th.

Shown for the first time was the Commission's sound and color movie, "Oil for Tomorrow" depicting improved methods in oil and gas production and conservation.

Among the featured subjects presented were Louisiana's modern conservation statutes, gas cycling in condensate fields and post-war problems of the states.

Findings, resolutions and committee reports, including the stripper well survey for 1943 concluded the meeting.

EMCO Makes Own Tin Plate

The installation of a continuous, automatic electroplating department by the Tin Meter Division of thePittsburgh Equitable Meter Company has been recently announced.

The manufacturer states that this equipment has been installed to make possible continued manufacture of EMCO Tin Meters from heavy gauge meter plate. It is further declared that the quality of the electroplated tin coating is much superior to that formerly secured from outside commercial sources.

Other advantages claimed are (1) the component parts are stamped and deep drawn before they are plated, thus eliminating rust-inviting surface cracks; (2) the edges of the parts are coated and sealed to eliminate another common point for corrosion attack; (3) the quality of the plate is automatically controlled to produce a smooth even coating without high or low spots, pin holes or surface flaws.

Jim Donnelly Joins A. O. Smith Corp.

J. E. Woodall, Home Appliance Sales Manager at A. O. Smith Corporation, announces the appointment of Jim Donnelly as Sales Manager of the Gas Water Heater Division. Mr. Donnelly assumed his new duties on March 1, and is making his headquarters at the A. O. Smith Corporation general offices in Milwaukee.

Jim Donnelly

Mr. Donnelly brings with him to his new position a wealth of experience in the gas industry appliance market. His many friends in this industry will recall his long association with the Bastian-Morley Company, Inc., La Porte, Indiana. After service with this company as field representative for ten years, he became Advertising Manager and later was appointed to the position of Sales Manager which he held for the last seven years.

Actively interested in the work of industry promotion, Mr. Donnelly has given generously of his time by serving on many important committees. He was Chairman, Water Heater Division, and member of Board of Directors, Association of Gas Appliance and Equipment Manufacturers, 1942 and 1943. He is currently Chairman, Water Heater Marketing Committee, A. G. A. E. M., member of the American Gas Association Water Heating Committee and the O. P. A. Water Heater Industry Advisory Committee.

The Reliable Shut-Off for Street Mains

THE GOODMAN STOPPER

Now has the "Z" handle for easy manipulation. When locked in place it holds. Stopper cannot slip. Gas cannot pass. Adjusted in 30 seconds.

Ask for circulars on this and other distribution equipment.

Nearly a half century of service to the Gas Industry.

Safety Gas Main Stopper Co.
523 Atlantic Avenue, Brooklyn, New York

Holley Poe Resigns from PRC

E. Holley Poe has resigned as executive vice president and general manager of the Petroleum Reserve Corp. In making the announcement Secretary of the Interior Harold E. Ickes stated that he understood Mr. Poe wanted to return to private business.

Cruse-Kemper Company Wins Army-Navy Award

Cruse-Kemper Company of Ambler, Penna., was founded in 1903. This company regularly manufactures gas holders, gas purifiers, steel tanks and weldments, and does a general line of steel plate construction.

During this war, the plant facilities have been devoted largely to the production of welded steel condenser shells, steel weldments for deck machinery, and special steel tanks for the Navy. Delivery schedules have regularly been met and exceeded, and high quality of products has been maintained.

The Army-Navy "E" for excellence of production of war materials was awarded to this company on March 22nd. Commander S. J. Singer, USNR, Washington, D. C., was the flag presentation officer, and Captain David H. McIlvaine, AUS, Philadelphia, the official Army representative and pin presentation officer. Taylor Grant was master of ceremonies.

Luncheon for employees and their relatives was served immediately after the ceremony.

Merle Thorpe Joins Cities Service

Election of Merle Thorpe to the Board of the Cities Service Company and his appointment as Director of Business Development has been announced by W. Alton Jones, President of the Company. Mr. Thorpe has retired as Editor and Publisher of Nation's Business magazine.

The Harvard-Bok award, some years ago, went to Mr. Thorpe for the year's best individual advertisement, which, ironically, was entitled "Let Washington Do It!" He was also cited in both 1938 and '39 for the best public relations campaign, built around the slogan, "What Helps Business Helps You."

Independent Pneumatic Tool Co. Elects Officers

Neil C. Hurley was elected Chairman of the Directors of the Independent Pneumatic Tool Company and Neil C. Hurley, Jr., was elected President at the company's annual meeting held March 8th.

The younger Mr. Hurley has been associated with the firm for twelve years, following his graduation from Notre Dame. In recent years following his managership of the company's electric tool division, he has successively served as Secretary, Vice-President and Executive Vice-President.

Edward G. Gustafson, Treasurer of the company, and John McGuire, Secretary, were elected to the Board of Directors.

Worthington Bulletins. Recent bulletins issued by Worthington Pump & Machinery Corporation, Harrison, N. J., cover Monobloc Centrifugal Pumps of open impeller and steam turbine drive types, and single and two stage units.

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OUR LEATHERS will stand up in the meter under all variable conditions. Unaffected by heat, cold or dampness. The test of time has proven their superiority over any substitutes proposed or offered for diaphragm use; they are strong and pliable.

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COMPLETE GAS HOLDER INSPECTION SERVICE
40 YEARS OF SOUND
STEEL PLATE CONSTRUCTION

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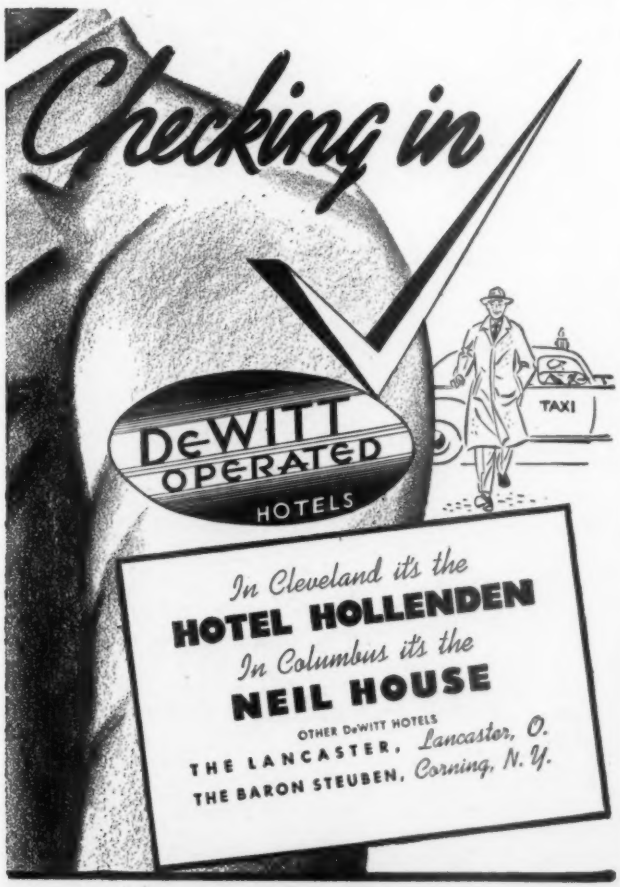

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Today's increased demands on the Gas Industry from both the production and home fronts has created many new problems in Gas Purification and sulphur corrosion.

In hundreds of plants throughout the country, Connelly Iron Sponge has not only helped decrease costly sulphur corrosion, but has also materially improved gas purification and lowered the operating and maintenance costs.

If you have a problem in gas purification, it will pay you to consult Connelly. A thorough analysis of your problem and unbiased recommendations will be made without obligation.

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Write for Prices

THE BARBER GAS BURNER CO.
3704 Superior Ave., Cleveland, O.

CP Range

(Continued from page 11)

proving the future health of the family and thereby building an even more rugged, aggressive America.

She'll be coming 'round the mountain soon. And when she comes, she'll be coming fast. Let's not be asleep at the switch so we find the CP gas range Opportunity Express has already rolled by before we make plans to board her.

Bertolette Address

(Continued from page 14)

The executives of our gas utility companies must realize that the depreciation problem is theirs. Many of our executives have too often felt that it is a complex accounting matter to be left in the hands of their accountants and auditors. We must face this problem by keeping constantly in mind that any departure from insistence on the observation of the fundamentals of fact and equity is a defeatist attitude. Any such effort to compromise is certain to be used against us as justifying the deduction of the depreciation reserve in determining a rate base. Such departure from a firm stand on the observation of fact and equity may also be used against us as justifying retroactive application of depreciation accounting.

Public Service

This gas industry of ours has been able to withstand the ravages of a number of wars, some of which were world-wide in scope. It has adjusted itself to changing conditions in an ever-changing world and has adopted new methods and skills in order to continue its usefulness to the public it serves. The gas industry of New England today represents an essential service necessary to the successful prosecution of the war—tomorrow it will continue as a necessary service in the public interest. To those of us in management, and to those associated with us, our aim is primarily threefold—the customers, the employees, and the stockholders. Each leg of this triangle must have the interest and support of an alert management.

We can be progressive, capable and successful. We will be these things. They are in our interest and they are in the public interest. What more encouragement do we need?

Paxton Elected Member of Controllers Institute

Norman F. Paxton, assistant secretary and assistant controller of the Panhandle Eastern Pipe Line Co., Kansas City, Mo., has been elected to membership in the Controllers Institute of America. The Institute is a technical and professional organization of controllers devoted to the improvement of controllership procedure.

Oxy-Acetylene Handbook

The Linde Air Products Company has issued a manual on basic oxy-acetylene welding and cutting principles and procedures. This durably bound, 600-page volume has not only proved its worth as a guide for self-instruction but may also be used a a textbook in regularly organized welding and cutting classes in trade and vocational schools, technical high schools, and engineering colleges.

It covers the entire range of the oxy-acetylene processes, giving clear, easy-to-follow instructions for handling all the common commercial metals. The book costs $1.50, and can be obtained from any Linde office.

JOHN J. BARADA

John J. Barada, safety and employment director of the Laclede Gas Light Company and noted safety authority, died March 11th, following a heart attack suffered as he was driving his automobile.

Death came to the 50-year-old World War I veteran, associated with his firm 33 years, under circumstances strikingly similar to thousands of emergency cases handled by the Laclede Gas Light Company inhalator squad, of which Barada was supervisor for 12 years, before it was abandoned in 1935. The sudden attack obviated use of the life-saving device he had promoted. The safety official had been under treatment for heart disease and high blood pressure for more than a year.

Born in St. Louis, the executive was a descendant of a family which was among the original French settlers in the Carondelet section of the city.

Barada was district chief of the National Committee of Manpower in War Industries, United States Department of Labor, a Sergeant in the famed Twelfth Engineers in the last war, he had been secretary of the Twelfth Regimental Association since its organization. He was a Major in the Corps of Engineers Reserves, a charter member and past commander of Aubuchon Dennison Post 186, American Legion, and recently retired as president of the Missouri Forty and Eight.

Eastern Representatives Meet At Pittsburgh Equitable Factory

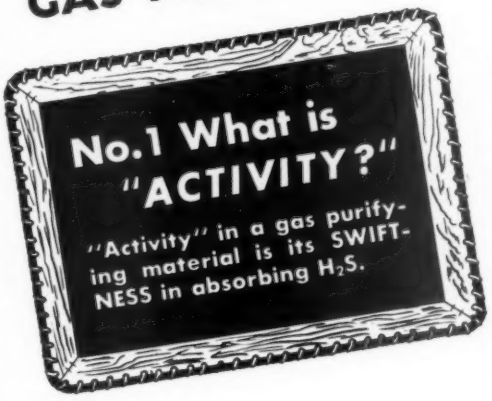
Front Row: Maynard, Siedentopf, Obrock, Jerge, O'Grady, Atwell, Gottwald, Gavin, Ricketts, Abbott. Second Row: Hamilton, Lufkin, Kenny, W. W. Dixon, Cloran, Jerman, Col. Rockwell, L. A. Dixon, Foster, Arens. Third Row: Mowrey, Harper, Gordon, Eyler, Taylor, Moore, Stroyd, Thomas, Andrews, Smith, Rand, Marsh. Back Row: McAulay, Brown, Keller, Noyes, Carlon, Oaks, Bixby, Geuss, Finley, Burnette, Fallows, Gleeson, Trimble.

The annual meeting for the eastern representatives of the Pittsburgh Equitable Meter Company was recently held at the general offices of the firm in Pittsburgh, Pa.

Called in from their territories by Colonel W. F. Rockwell, President, the District Managers and Service Engineers from Atlanta, Columbia, Brooklyn, Buffalo, New York, Pittsburgh and Boston offices, met with company executives for a discussion of problems relating to field operations. The engineering staff of the firm conducted a series of meetings for the review of the company's products. Post-war plans and markets were also covered in the four-day session.

Those attending the conference are grouped in the photo above.

little lessons in GAS PURIFICATION



A slow-acting gas purifying material is like a slow moving workman. It doesn't get its job done on time!

Unless a quick-acting "live wire" type of purifying material is used, gas just doesn't get completely cleansed of its H_2S. It goes through the dry box only partially rid of its impurities.

LAVINO ACTIVATED OXIDE is quick acting; a swift worker. By its high activity it saves money by getting its job done on time.

Test its activity. It needs only its own perfect performance to convince you that it pays dividends in time-saving, work saving, man-hours saving.

LAVINO "ACTIVATED" OXIDE

Supplied unmixed or ready mixed in "Sponge" form.

E. J. LAVINO and COMPANY
1528 Walnut St., Phila. 2, Pa.

The Heart of Any Water Heater Is the Tank . . .

Your customers demand tanks that are *clean* and *sanitary.*

That's why SMITHway Automatic Gas Water Heaters are lined with glass—**Permaglas*—a smooth, lustrous, sanitary, blue glass lining, permanently fused to the inside of SMITHway steel tanks.

Permaglas is the modern and healthful way of heating and storing *clean* hot water—just as clean as the water you drink from the tap.

If you are interested in selling *profitably* in a home appliance market that will be demanding *newer* and *higher* standards of perfection in hot water convenience—you'll want to know more about this SMITHway Heater with *Permaglas* tank. Write for complete information—get the inside story today.

Buy More War Bonds

A. O. SMITH Corporation
Milwaukee 1, Wisconsin

Offices at: New York, Pittsburgh, Chicago, Tulsa, Houston, Los Angeles and Seattle
In Canada—JOHN INGLIS CO., LIMITED

***Permaglas** Victory Model Heaters are available in all sizes in accordance with W.P.B. limitation order L-185.*

SMITHway Permaglas GLASS LINED
GAS WATER HEATERS

Gas Register FOR THE INDUSTRY

Gas is accounted for when Sprague Meters are on the job. At this time, Gas is a precious commodity and its volume of consumption at its greatest peak. No one is short changed when it is measured accurately and economically through a Sprague Gas Register.

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